ALPHABETICAL INDEX.

[Pages in heavy type contain important references.]

Page.

A.

Abaco Island, Bahamas 3
Abert, J. T 23, 24, 28, 30
Abietineæ 34
Abietites dubius 34
Acacia Farnesiana 634
Acanthis 109
hornemannii exilipes 142
linaria 142
linaria holbœllii 142
Acanthopterygians 613
Accipiter atricapillus striatulus 201
chionogaster 583
cooperi 162, 201, 235, 637, 659
nisus 141
striatulus 161, 162, 235
velox 162, 201, 235, 637, 642, 659
Accipitroideæ 139
Acer vitifolium 44
Ackerman, A. A 38, 42, 43
fossils from 40
Acrocephalus ochotensis 145
species 486
Acrotus willoughbyi, new genus and species **631**
Actinic Engraving Company 726
Actitis hypoleucos 133, 414
incana 83
incanus 83
macularia 199, 235, 584, 637, 653
pulverulentus 83
Actodromas acuminatus 130
damacensis 130
minuta 130
ruficollis 130
temminckii 130
Adams, Joseph Alex 719
Admetovis oxymorus 464
Æchmophorus clarkii 190, 234
occidentalis 190, 234
Ægialitis euronicus 394
dubia 394, 414
mongola **136**
measurements of 128
montana 637, 654
pyrrhothorax 126, 127
semipalmata 637, 642, 654
vocifera 199, 235, 637, 640, 642, 654

Page.

Aeo, Hawaiian bird 81
Æstrelata desolata 125
hæsitata 77
leucoptera 125
meridionalis 77
phæopygia 77
sandwichensis **77**
Africa, South, birds from 132
Agapornis cœlestis 537
cyanopterus 538
guianensis 543
Agelaius gubernator 214, 236
phœniceus 213, 236, 637, 642, 670
tricolor 214, 236
Agrotis 450
albicosta, new species **454**
bifasciata, new species **460**
binominalis, new species 450, **451**
brevipennis, new species **455**
confusa, new species **452**
crenulata, new species **451**
discoidalis 451
exsertistigma 450
extranea, new species **459**
facula 451
finis, new species **457**
flavicollis, new species **456**
flavidens, new species **455**
formalis 450
luteola, new species **457**
medialis, new species **459**
obesula, new species **456**
oblongistigma, new species **454**
observabilis 451
orbicularis, new species **460**
pallipennis, new species **461**
proclivis, new species **453**
rufula, new species **461**
serricornis, new species **458**
solitaria, new species 462
sorror, new species **453**
sponsa, new species **457**
tepperi, new species **452**
tetrica, new species **458**
trifasciata, new species **460**
Agyrtria candida 582
Aimophila rufescens 587
Aix sponsa 194, 234, 636, 641, 647

Page.

Ajaja ajaja 641, 648
Akekeke, Hawaiian bird 82
Akakane, Hawaiian bird 99
Alabama, fishes from 62
fossils from 22
Alai keokeo 79
Alai ula 78
Alaska, fossils from 35, 36, 37, 38
Alauda blakistoni 142
Alaudidæ 210, 668
Albatross on Commander Islands 126
steamer, corals collected by ... 13, 17, 354
Albertype process 728
Alca monocerata 118
monoceros 118
Alcedinidæ 205, 663
Alcedo ægyptia 295
bengalensis 415
Alcoideæ 117
Alectis 480, 481
Alcthopteris ambigua 27
lonchitica 27
var. angustifolia ... 27
Serlii 57
Algæ, fossil **21**
Allen, Dr. Harrison 515
Prof. J. A., ... 8, 271, 277, 380
Alligator Lizard 238
Alnus Kefersteinii 38
Alopecurus alpinus 153
Stejnegeri, new species grass. **153**
Alt, Rudolf, etching by 710
Alvarius 47
Amakahi, Hawaiian bird 86, 87
Amazilia fuscicaudata 591
Amazon, new bird from 151
Amazona auripalliata 592
autumnalis 583, 592
Amblycercus holosericeus 588
Amblystoma tenebrosum 240
American Art Review 719, 721
Avocet 198
Badger 187
Bittern 196
Crow 212
Egret 197
Elk 168
Flycatchers 92
Golden-eye 195
Magpie 210
Merganser 193
Museum of Natural History .. 22, 24, 26
Osprey 203
Pipit 225
Raven 212
Rough-legged Hawk 202
Sable 188
Scaup Duck 195
White-fronted Goose 195
White Pelican 192
Amethyst Mountain 40
Amiatus 481
Amiurus melas 242, 247, 248, 251, 253
Amiva thoracica 438
Amman, Jost, etching by 709

Page.

Ammodramus "alaudinus" 236
leconteii 638, 674
sandwichensis alaudinus .. 217, 638, 673
perpallidus. 642
savanna ... 642, 673
savannarum perpallidus ... 638, 640, 673
Ampelideæ 43, 222, 683
Ampelis cedrorum 222, 236, 638, 642, 683
garrulus 143
japonicus 415
Ampelopsis quinquefolia 635
Amphispiza belli nevadensis 219
bilineata 638, 640, 677
"nevadensis" 236
Anabates boissoneautii 151
Anacardiaceæ 44
Anas americana 194, 234, 641, 646
bernicla 135
boschas 136, 193, 234, 636, 641, 646
canagica 135
carolinensis 194, 234, 636, 641, 646
clangula, trematode in 369
crecca 137
cucullata 136
cyanoptera 194, 234
discors 194, 234, 636, 641, 646
glacialis, trematode in 369
javanica 397
leucophthalmos 137
marila, trematode in 369
musica, trematode in 369
obscura 636, 646
penelope 163, 194, 234
spectabilis 138
strepera 193, 234, 636, 641, 646
Anatidæ 193, 645
Anatoideæ 134
Anderson, Dr. Alexander 718
Andrew, George T 720
John, engraving by 719
Andromeda affinis 41
linearifolia, new species **42**
parlatorii 42
protogæa ? 42
revoluta 42
Andromedeæ 41
Andubonia 310, **311**
Anhinga anhinga 636, 645
Anhingidæ 645
Annan and Swan 730
Annularia longifolia 23
var. augustifolia 23
sphenophylloides 23
Anoaui, Hawaiian bird 96
Anolis distichus 436
ordinatus 436
principalis 437, 439
sagræ 436
Anoploma fimbria 632
Anopæus for Murænoblenna 481
Anorthura hiemalis pacificus 227
Anous stolidus 416

Page.

Anser albifrons gambeli 134, 195, 234, 636, 648
canagicus 135
pictus 135
segetum midendorffi 134
Anseres 645
Antelope, Prong-horn 169
Anthony, A. V. S 720
Anthozoa, Prof. A. E. Verrill on 10
Anthus cervinus 144, 403, 415
gustavi 444
japonicus 144
maculatus 403, 415
pensilvanicus 225, 237, 638, 640, 642, 688
spraguei 689
Antilocapra americana 169
Antrostomus carolinensis 637, 665
vociferus 642, 665
Anura 436
in California 241
Apapane, Hawaiian bird 95
Apekepeke, Hawaiian bird 87, 90
Aphelocoma californica 211, 236
sieberii arizonæ 554
Aphrizidæ 199, 655
Aplesion pottsii 248
Apogon 481
Apteryx australis 158
Aquatint engraving 711
Aquila chrysaëtos 642, 660
chrysætus 202, 235
Aralia Browniana 43
Araliaceæ 43
Ara macao 592
Aramaca pætula 270
Aramides cayennensis 594
Arbelorhina cyanea 579
Archæopteris minor 24
Archibuteo ferrugineus 202, 235
lagopus 141
sancti-johannis 202
"sancti johannis" 235
Archilithobius 255
Archosargus, analysis of 65
species **67**
chronological list of species. 74
probatocephalus 67, **68**, 74
aries 68, **69**, 74
review of species of **65**
tridens 68, 71, 74
unimaculatus 67, 74
analysis of 68, 69
Arctia Lecontei 339
Arctic Tern 123
Three-toed Woodpecker 205
Arctomys flaviventer 163, 170
Ardeæ 292
Ardea æquinoctialis 316
affinis 301
alba 313, 314
albilineata 300
asha 301
audax 306
bicolor 309
botaurulus 306
botaurus 311

Page.

Ardea brag 311
caboga 309
caledonica 296
candidissima 636, 642, 649
subsp. eulophotes 318
caspia 311
castanea 305
chrysopelargus 285
ciconia 385
cinerea 301, **310**, 311, 415
cinnamomea 291
cærulea 637, 642, 649
comata 305, 309
coromanda 309
coromandelensis 309
coromandelica 309
deaurata 309
egretta 197, 234, 313, 636, 642, 649
egrettoides 313, 315
elegans 306
erythropus 306
ferruginea 295
flavirostris 309, 314
garzetta 313
var. nigripes 317
goisagi 292, 295
grayi 302
grayii 306
greyi 302
grisea 295, 306
griseo-albus 306
gr us, trematode in 369
gularis 301
herodias ... 113, 114, 196, 234, 376, 636, 641, 649
(Herodias) abolineata 301
herodias, osteology of 384
ibis 309
idae 306
javanicus 298
jugularis 300, 301
var. concolor 301
var. greyi 302
kwakwa 295
leucophæa 311
leucoptera 306
grayi 306
speciosa 306
lepida 289
macrorhyncha 298
maculata 295
malaccensis 306, 307
manillensis 296, 297
marsigli 305
melanophis 289
melanoptera 289
melanopus 315
melanotis 289
modesta 314
monticola 311
nævia 84
nebulosa 289
nigra 285
nigripes 317
nigrirostris 315, 316
nivea 316

Page.

Ardea novæ-hollandiæ 301
nycticorax 295
occidentalis 114
orientalis 316
pealei 636, 649
pharaonica 311, 312
pumila 305
purpurascens 311
purpurata 311
purpurea 310, **311**, 312
var. manillensis 311
putea 314
ralloides 305
rufa 311
rufescens 636, 642, 649
ruficapilla 309
rufiventris 306
russata 309
rutila 311
sacra 300, 301
santodactylos 316
scapularis 298
semirufa 306
senegalensis 306
sinensis 289
speciosa 306
squaiotta 306
stellaris 287
synopsis of **310**
torra 314
tricolor ruficollis 636, 642, 649
variegata 311
virescens 197, 234, 298, 637, 642, 650
amurensis 298
scapularis 298
violacea 295
wardi 113, 114
wuerdemanni, measurements of **115**
notes on **112**
xanthodactyla 316
xanthopoda 306
Ardeidæ 196, 272, 286, 648
Ardeinæ 286
synopsis of **287**
Ardeola 287, 288
grayii **306**
leucoptera **306**, 307
measurements of **308**
malaccensis 305
minuta 288
prasinosceles 306, 307
ralloides **305**
rufiventris 306
speciosa **306**, 307
synopsis of species **305**
xanthopoda **306**
Ardetta **287**, 288
cinnamomea 289
eurhythma 288, **289**, 291
measurements of **292**
exilis 234, 291
minuta 290, 291
pulchra 289
sinensis **289**, 291
measurements of **290**

Page.

Ardoideæ 272, 285
Arenaria interpres 126, 163, 199, 233, 575, 642, 655
melanocephala 163, 199, 235
Arizona, birds' nests and eggs from **551**
fossils from 34
Trogon breeding in 147
Arkansas, fossils from 28
goldfinch 217
Arquatella couesi **129**
measurements of **130**
maritima 129
Arremon aurantiirostris 586
Artotype process 728
Arts, graphic, in National Museum 702
Arvicola austerus curtatus 175
"curtatus" 163
riparius 176
Arundineæ 35
Arundo Gœpperti 35
Asclepiadeæ 41
Asio accipitrinus 85, 141, 203, 235, 637, 642, 661
measurements of **86**
brachyotus 86
galapagoensis 86
sandwichensis 85
wilsonianus 203, 235
Aspidophoroides 480
Asser's process of photolithography 727
Asterias helianthus 440
(Heliaster) Cumingii 443
helianthus 446
multiradiata 447
Asterophyllites equisetiformis 23
Astur candidissimus 141
Attila viridescens, new species **522**
Atkinson, Prof. George F 617
Atooi Island, birds of 75
Audubon's Hare 181
Auriparus flaviceps 638, 693
Australian curlew 134
Autotype Company 730
process 728
Avery, S. P 704
Avocet, American 198
Aygula for Coris 480
Aythya affinis 195, 234, 641, 646
americana 194, 234, 641, 647
collaris 195, 234, 647
ferina 137
fuligula 137
marila 137, 415
nearctica 195
"nearctica" 234
vallisneria 194, 234, 641, 647

B.

Bacher, Otto H 723
Badger 160
American 187
Bahamas, Batrachia and Reptilia of **436**
corals from 361
new Spindalis from 3
Baird, Prof. S. F 8, 186, 241, 502
Brewer and Ridgway 140

	Page.
Baird's Toad	241
Bald Eagle	202
Baldpate	194
Band-tailed Pigeon	200, 551
Banksieæ	41
Barn Swallow	221
Baron, H., lithograph by	713
Barrows, W. B	158
Bartoli, Pietro Santo, etching by	709
Bartolozzi, F., engraving by	708, 712
Bartramia longicauda	637, 653
Bascanium constrictor	239
vetustum	240
tæniatum laterale	240
Basileuterus leucopygius	585
Bassaris astuta	184
Bat, Blunt-nosed	182
new species of	**6**
Serotine	182
Silvery-haired	182
Batrachoides	480
Batrictius	480
Baude, Ch., engraving by	707
Bayer, T	713
Bean, Dr. T. H	322
on new Char	**628**
new fishes from Mexico	**370**
new genus Acrotus	**631**
new Thyrsitops	**513**
Red Snapper	**512**
Bear, Black	182
Grizzly	183
Beaver, Mountain	174
skins, value of	175
Beavers of California	175
Becker, G. F., collected fossils	32, 35, 36, 42, 44
Beckham, Charles W., on birds of Texas	**633**
Beham, Hans Sebald, engraving by	707
Belgium, fossils from	30
Bellows, A. F	722
Beloit, Kansas	242
Belone	480
Belted Kingfisher	205
Bendire, Capt. C. E., on nest and eggs of Gnatcatcher	**549**
Benedict, J. E., collections by	436
Benson, Lieut. H. C., birds from	147, 148
collected nests and eggs	**551**
Berberis trifoliata	635
Berghem, N., etching by	709
Bering Island, birds on	117
entomostraca on	154
grass from	153
Berlepsch, Count Hans von	503
Berlepschia, new genus of birds	**151**
Berlin Museum	88
Bermuda, corals from	356
Bernicla, skulls of	383
canagica	135
Bernstrom, Victor	720
Betten, Col. J. C	601
Betulæ	38
Bewick, Thomas, engraving by	706
Bighorn	169
Birds from Caribbean Sea and Honduras	572
of Northern California	**159**
Birds' sterna and skulls	**376**
Bittern, American	196
Japan Tiger	292
Least	196
Little Chestnut	289
Little Yellow	289
Schrenck's Little	291
Bitterns of Japan	286, 287
Black Bear	182
Blackbird, Bicolored	214
Brewer's	215
Red-winged	213
Tricolored	214
Black-bellied Plover	199
Black Brandt	135
Brant	196
Black-breasted Woodpecker	206
Black-chinned Hummingbird	207
Black-crowned Night Heron	84, 197
Blackford, E. G., fish from	512
Black Fox	188
Hills, Dakota, fossils from	21
Black-necked Stilt	198
Black Phœbe	209
Snake	239
Black-tailed Deer	161, 164
Black Tern	192
Turnstone	199
Blake, William P., collected fossils	38
Blakiston, Capt. Thomas	110, 288, 307
Blasius, Dr. Wilh	126
Blepharis	481
Bluebird, Mountain	232
Western	232
Blue Muskrat	174
Blue-winged Teal	194
Bluish Heron	75
Blum, Robert	723
Blunt-nosed Bat	182
Blythipicus ? ? noguchii	415
Boatbills	286
Bogart, J. A	720
Bogota	1
Bolborhynchus	529
Boleosoma lepida	248
olmstedi	242, 247, 250
Bollman, Charles H., collected myriapods	323, 328
on Lithobiidæ, etc	**254**
new Myriapods	**176**
Bolschoj Gagara, on Bering Island	117
Bolswert, Schelte à, engraving	707
Bombix	342
Bombycidæ	340
Bonaparte on Platalea minor	361
Bonaparte's Gull	192
Bonasa "sabini"	235
sabinii	163
umbellus sabini	200
Bonin Islands, corals from	18, 19
Bookhout, E	719
Boomer, Mountain	175
Bornia radiata	23
Boston Photogravure Company	728

Page.

Bostrychoides ... 481
Bostrychus ... 481
Botaurus ... **287**
arundinaceus ... 287
exilis ... 196, 649
lacustris ... 287
lentiginosus ... 196, 234, 636, 648
stellaris ... **287**
measurements of ... **288**
Bothrodendron punctatum ... 29
Boulenger, Dr ... 437
Boullongue, L. de, etching by ... 709
Bourdon, Sebastien, etching by ... 709
Bourgeois, C ... 713
Bousod, Valadon & Co ... 726
Bovidæ ... 169
Boyce, R. H ... 286
Brachyotus galapagoensis ... 85
Brachyphyllum crassum ... 34
Bracquemond, F., etching by ... 710
Branchinecta arctica ... 154
groenlandica ... 154
Branchiostegus for Coryphænoides ... 480
Branchipus paludosus ... 154
Branderius for Cæcilia ... 481
Brandt, Black ... 135, 196
Branner, Charles B ... 617
Branta, skulls of ... 383
canadensis ... 195, 234, 636, 648
hutchinsi ... 195, 234
hutchinsii ... 135, 636, 648
nigricans ... 135, 196, 234
Brazil, corals from ... 365
Bream ... 66, 69
Brennan, Alfred ... 723
Brewer's Blackbird ... 215
Sparrow ... 218
Brewster, William ... 549, 696
Bridled Weasel ... 187
Bristle-thighed Curlew ... 83
British Museum, meteoric iron in ... 602
Britts, Dr. J. H., collected fossils ... 28, 32
Brooks, W. E ... 132
Broussonetia papyrifera ... 635
Brower, J. M ... 11, 16
Brown, George L ... 722
J. B., snake from ... 146
J. G ... 723
Nathan Clifford ... 633, 696
Peter, zoological illustrations by ... 352
Brown-faced Flycatcher ... 89
Bruch, Notary ... 137
Brunn, A. E ... 328
Bubo saturatus ... 163, 235
"subarcticus" ... 235
virginianus ... 637, 642, 662
saturatus ... 204
subarcticus ... 204
Bubonidæ ... 203, 661
Bubulcus ... 287, 309
coromandus ... 309
measurements of ... **310**
ibis ... 309, **310**
Buckner, H. F., collected fossils ... 23, 33
Budytes flavus leucostriatus ... 144

Page.

Buffle-head ... 195
Bufo halophilus ... 241
Bullfinches, notes on Palæarctic ... **103**
Bullock's Oriole ... 214
Buphus ... 305
bacchus ... 307
Burke, J. H ... 260, 261, 617
Burns, Frank, collected fossils ... 22, 23
Buro ... 480
Buronus for Buro ... 480
Burrowing Owl ... 204
Bushtit, Lead-colored ... 557
Bushy-tailed Wood Rat ... 176
Butalis griseisticta ... **143**
hypogrammica ... 144
pallens ... 144
sibirica ... 143, 144
Butastur indicus ... 402, 415
Butcher, Dr. H. B., on Texas birds ... 696
Buteo abbreviatus ... 551, 659
albicaudatus ... 642, 660
borealis ... 637, 642, 659
calurus ... 202
"calurus" ... 162, 235
"elegans" ... 235
harlani ... 637, 659
latissimus ... 637, 660
lineatus ... 637, 659
elegans ... 202, 637, 659
swainsoni ... 202, 235, 553, 637, 660
Buthrotrephis flexuosa ... 22
gracilis var. crassa ... 22
Butio ... 292
goisagi ... 292
Butler, A. G., on Hypercompa ... 352
Butor ... 287
Butorides ... 287, 298
chloriceps ... 298
javanicus, measurements of ... **299**
amurensis ... 298
macrorhynchus ... 298
patruelis ... 299
saturatus, new species ... **577**
schrenckii ... 298
virescens ... 577
Butreron ... 417
Büttikofer, Dr. J ... 293

C.

Cabanis, Dr ... 88, 96
Cabin Creek, Arkansas, meteoric iron at ... 598
Cachryx erythromelas ... 437
Cacomistle ... 184
Cæcilia ... 481
Cæsalpinia pulcherrima ... 635
Caica hæmatotis ... 593
Calamariæ ... 22
Calamites approximatus ... 22
var. cruciatus ... 22
cannæformis ... 22
Cistii ... 22
dubius ... 22
Lehmanfer ... 22
ramosus ... 22
Suckowii ... 22

Page.

Calamodendron approximatum 23
Calamospiza melanocorys 638, 642, 681
Calamus calamus 65
cristatus 155
Calaveras Warbler 223
Calcarius lapponicus 142
ornatus 638, 672
Calidris arenaria **82**, 130, 642, 652
measurements of **82**
California, animals of **159**
Brown Pelican 193
fossils of 38, 44
Gull 191
Hare 181
Jay 160
Partridge 199
Purple Finch 215
Quail 199
Rattlesnake 239
reptiles of 237
Vulture 201
Gray Squirrel 174
Lined-tailed Spermophile 172
Call, R. Ellsworth, on new Unio **498**
Callimorpha, North American **338**
synopsis of species **342**
carolina 344, 353
clymene 338, **342, 344**, 353
colona 344, 353
comma 353
confinis 345
contigua 340, **342, 346**
fulvicosta 340, **342, 350**
interrupto-marginata .338, **342**, 353
lactata, new species 342, **345**
lecontei 338, **342**, 345, **348**
leucomelas 348
militaris **342, 345**
reversa 348
suffusa, new species 342, **347**
vestalis **342, 351**
Callionymus pauciradiatus 502
bairdi, new species **501**
Calliope Humming-bird 209
Callipepla californica 163, 199, 235
vallicola 200
elegans 148, **150**
benson, new subspecies **148, 150**
squamata castanogastris 640, 656
"vallicola" 235
Callipteris pilosa 25
Calliste larvata 585
Callot, Jacque, etching by 709
Campbell, J. P 183
Campephilus guatemalensis 582, 591
Campostoma anomalum 247, 250, 251, 253
Campylorhynchus capistratus 597
castaneus, new species. **597**
rufinucha 597
Canada Goose 195
Lynx, cranial characters of **8**
Canale, Ant., etching by 709
Cancer paludosus 154
stagnalis 154

Page.

Cancroma coromanda 309
leucoptera 307
Cancrophagus 305
Canidæ 188
Canis latrans 188
Cannelton, Pa., fossils from 22, 23, 24
Cantarini, Simone, etchings by 709
Canvas-back Duck 194
Caprimulgidæ 206, 665
Carangidæ 481, 612
Caraway, Mayor B 599, 604
Carcharinus Milberti 563
obscurus 563
Cardinalis cardinalis 638, 640, 642, 680
Cardiocarpus annularis 33
conglobatus 33
Carex, fossil leaves of 36
Cariacus columbianus **164**
macrotis 163, 164
Caricæ 36
Carpinus grandis 38
Carpodacus cassini 161, 162, 215, 236
frontalis 215, 236
purpureus californicus 215, 236
Carpodectes antoniæ 2, **20**
nitidus 2, 20
Carpophaga ianthina 398, 419
Carrion Crow, on name of **320**
Carya olivæformis 635
Cassin, Mr 86, 91, 92
Cassin's Purple Finch 215
Vireo 223
Cassatt, Mary 722
Castanea Ungeri 38
Castor fiber 175
Castoridæ 175
Cat, Civet 184
Catharista atrata 637, 640, 642, 658
Cathartes aura 201, 235, 637, 640, 642, 658
Cathartidæ 201, 658
Catharus berlepschi, new species **503**, 504
fumosus, new species **505**
fuscater **503**, 504
mexicanus 505
Catherpes conspersus 162, 237
mexicanus conspersus **226**, 638, 690
Cat Island, Bahamas 3
Caton, Judge 164
Catostomus teres 247, 250, 251, 253
Caudisona confluenta 239
Caulinites Beckeri, new species **36**
Parisiensis 37
Cedar Waxwing 222
Celtis occidentalis 635
pallida 635
Centreville, Tenn., fossils from 22
Centrocercus urophasianus 163, 200, 235
Centropristis dispilurus 269
subligarius 269
Centurus caymanensis 574
dubius 579
elegans 268
pucherani 583, 591
santacruzi pauper, new subspecies **583**

Page.

Century Company, collection from 704
Ceophlœus pileatus 161, 206, 235, 637, 664
scapularis 582
Cephacandia for Cephalacanthus 480
Cephalacanthus 480
Cepphus carbo 118
columba 118, 376, 381
Ceratorhyncha 118
Cercocarpus 43
Cerorhina monocerata 118
orientalis 118
suckleyi 118
Cerorhinca monocerata 118
occidentalis 118
Certhia "americana" 161, 162, 237
brachydactyla 606, 610
costæ 606, 607
familiaris 606, 610
americana 227, 610, 638, 691
brachyrhynchos 906
measurements of **608**
macrodactyla 606
pusilla 606
scandulaca 606, **609**
septentrionalis 606
vera 606
fasciata 609
hodgsoni 609
longicauda 609
macrodactyla 606
microrhynchos 606
nattereri 606
obscura 93
pacifica 100
sanguinea 95
scandulaca 609
septentrionalis 606
turneri 606
vestiaria 97
Certhiidæ 227, 691
Certhiola sharpei 574
Cervaria, subgenera 8
Cervidæ 164
Cervus canadensis 168
Ceryle alcyon 205, 235, 637, 642, 663
cabanisi 582, 591, 637, 642, 663
torquata 591
Cettia cantans 415
measurements of **409**
cantillans 415
measurements of **409**
Chætura vauxii 207, 235
"Challenger" expedition 11, 91
Chamæa fasciata 163, 229, 237
henshawi 161, 229
"henshawi" 237
Chander, C. F 704
Chanvel, Théodore, etching by 710
Chaparral Cock 204
Chapman, H. C., collections by 436
J. G 722
Char, new species of **628**
Characodon atripinnis 370
bilineatus, new species **371**
ferrugineus, new species **372**
lateralis 370

Page.

Characodon variatus, new species **370**
Charadriidæ 199, 654
Charadrius dominicanus 80
dominicus 80, 637, 642, 654
fulvus **80**, 126, 394, 414
mongolus 126
pluvialis 80
squatarola 126, 163, 199, 235, 394, 414
taltensis 80
xanthocheilus 80
Charina plumbea 240
Charitonetta albeola 137, 195, 234
Charlet, N. T 713
Chase, William M 723
Chasiempis, key to Hawaiian species of **87**
dolei, new species 87, 88, **90**
ibidis **87**, 88, 89
measurements of **89**
ridgwayi 87, 89
sandwichensis 86, 88, 89
sclateri **86**, **87**, 88
Chat, Long-tailed 224
Chaulelasmus, streperus 136
Cheilio 480
Cheilodactylus 480
Chelidon erythrogaster 221, 236, 576, 579, 638, 682
namiyei 415
tytleri 143
Chelopus marmoratus 237
Chemitypy, methods of 716
Chen hyperborea 195, 234
nivalis 636, 641, 647
hyperboreus 155
Chickadee, Chestnut-backed 229
Mountain 228
Oregon 228
Chickaree, Douglass's 174
Fremont's 173
Chifflart, F., etching by 710
Chilabothrus chrysogaster 439
strigilatus 439
Childs, B. F., engraving by 719
Chimæra affinis 513
Blue 513
Chimerina cornuta 118
Chipmunk, Rocky Mountain 171
Say's 170
Townsend's 171
Chipmunks 178
Chiromachæris candaei 580
Chlœphaga antarctica 383
canagica 135
magellanica 383
poliocephala 376, 383
Chloris kawarahiba 487
Chlorophanes spiza guatemalensis 585
Chlorospiza aldunatei 431
gayi 432
Chondestes grammacus 633, 638, 640, 674
strigatus 218, 638, 642, 674
stryatus 236
Chopa spina 66
Chordeiles texensis 581, 637, 666
virginianus 637, 666
henryi 207, 235
Chrosomus erythrogaster 249

Page.

Chrysophris 65
Chrysuronia eliciæ 591
Church, F. S. 722
Cichlopinæ 615
Cichlops 616
Cichlopsini 616
Ciconia 285
alba 286
boyciana **285, 286**
measurements of **286**
fusca 285
nigra **285**
Ciconiidæ 272, 285, 648
Ciconiinæ 285
Cinclidæ 225
Cinclus mexicanus 162, 225, 237
Cinnamomeæ 41
Cinnamomum laceolatum 41
Schenchzeri 41
Cinnamon Teal 194
Circus hudsonicus 637
hudsonius 201, 235, 642, 658
Cisalpes microphyllus, new species **41**
Cissus lævigata 43
Cisticola brunniceps **407**, 415
measurements of **408**
cisticola 407
measurements of **408**
cursitans 407, 408
measurements of **408**
Cistothorus palustris 227, 237
Civet Cat 184
Clangula hyemalis 137
Clark, Ellis, fossil from 22, 26, 31
Clarke, Prof. F. W. 604
Clarke's Nutcracker 212
Clark's Grebe 190
Claudius, engraving by 721
Clements, Gabrielle D 722
Cliff Swallow 221
Cliola topeka 246
vigilax 246
Clivicola riparia 143, 222, 236, 642, 682
Clodactylus for Cheilodactylus 480
Closs, A., engraving by 707
Closson, William B. 720
Clupanodon 480
Cnipolegus species 89
Coach-whip snake 240
Coast Gray Fox 188
Cobbold, on Trematode, quoted 368
Coccothraustes vespertina 215, 236
rubicilla 105
Coccyges 662
Coccyzus americanus 163, 204, 235, 577, 637, 642, 663
erythrophthalmus 204
minor 577
Cochlearinæ 286
Colaptes auratus 637, 665
cafer 162, 206, 235, 637, 665
saturatior 206, 235
Cole, R. E. 599
Timothy 720
Coleogyne ramosessima 549
Colinus nigrogularis 594

Page.

Colinus nigrogularis segoviensis, new subspecies **593**
ridgwayi 655
virginianus cubanensis 594
texanus 637, 640, 642, 655
Coliomorphæ 92
Collas, Achille, engraving machine by 715
Collet, L., collected fossils 24, 27
Collett, Prof. Robert 271, 282, 404, 416
Collie, Mr 298
Collographic processes 728
Colman, Samuel 722
Colombe violette 419
Colopterus 519
Colopteryx galeatus 519
inornatus, new species **519**
Colorado, fossils from 27, 33
Colubrina Texensis 634
Columba 416, **422**
abyssinica 416
affinis 424
albitorques 422
amaliæ 424
calva 417
capellii 417
(Carpophaga) janthina 419
curvirostra 416
domestica 423, **424**
fera 424
mansueta 425
fasciata 161, 200, 235, 551
humilis 428
intermedia 415, 423, 424
iris 419
janthina 418, 421
kitlizii 419
leucocephala 576
livia 422, 424
fera 424
rustica 424
var. rupicola daurica 425
metallica, new species 419, **420**
nigrirostris 594
œnas 422, 423, 425
orientalis 425
(Peristera) turtur 426
purpureotincta, new species **594**
risoria 425, 426, 428
domestica 428
rupestris 423, 425
rupicola 425
sieboldii 417
splendida 419
turtur 425
vernans 417
Columbæ 657
Columbeæ 416
Columbia Deer 164
Columbian Sharp-tailed Grouse 200
Columbidæ 200, 657
Asiatic 422
synopis of **416**
Columbigallina passerina 575, 657
bahamensis 574
insularis 574

Page.

Columbigallina passerina pallescens 637
rufipennis 584
Columbis nitens 421
Colymboideæ 117
Colymbus auritus 117, 190, 234
"californicus" 234
holbœllii 117
nigricollis californicus 190, 636, 643
Commander Islands, birds of **117**
entomostraca on ... **154**
new grass on **153**
Compsothlypis americana 575, 638, 642, 685
Condalia obovata 634
Condor, California 201
Coniferæ 34
Coniferous, fossil 35
Contia mitis 239
Contopus borealis 161, 162, 209, 236, 637, 667
brachytarsus 589
richardsoni 162, 209, 236
richardsonii 637, 668
vicinus, new species **576**
virens 576, 580, 637, 668
Conurus aztec 584, 592
Cook, Captain, voyage of 75
Cooper, Dr 159
Cooper's Hawk 201
Coot, American 197
Cope, Prof. E. D 159, 238, 240
"notes on reptiles" by ... 241
on Batrachia of Bahamas **436**
new Tropidonotus **146**
Copepods, parasitic, new species **559**
Copimamestra 470
curialis, new species **470**
Copper Island, birds of 117
grass from 153
Copurus leuconotus 589
Corals, catalogue of Madrepore **10**
type collections of **10**
Corals and polyps, work of Professor Verrill on 10
Cordaianthus 32
Cordaiteæ 31
Cordaites angustifolius 31
borassifolius 31
costatus 31
grandifolius 32
mansfieldi 31
new species ? **32**
Corethrura 396
albigularis 111
Coris 480
Cormorant, Farallone 192
Cornaceæ 42
Cornus Drummondii 635
ferox 42
rhamnifolia 42
Studeri ? 43
Corvidæ 210, 669
Corvus americanus 212, 236, 556, 637, 669
andamanensis 412
behringianus 142
colonorum 412
corax sinuatus 212, 376, 385, 556, 637, 669

Page.

Corvus cornix, trematode in 369
corone **320**, 412
levaillantii 142, 321, 412
orientalis **321**
measurements of. **413**
cryptoleucus 552, 555
culminatus 320
frugilegus, trematode in 369
intermedius 412
japonensis 320, 412, 486
levaillantii 320, 412
macrorhynchus **320**
japonensis 412
levaillantii ... **412**, **413**, 415
orientalis 320, 412
pica, trematode in 369
sinensis 412
"sinuatus" 236
Cory, Charles B., birds from 112, 572
Coryleæ 38
Corylus McQuarrii 38
Corypheæ 38
Coryphænoides 480
Cosmerodius 313
Costa Rica, birds from 1, 20, 111, 505
Cotinga amabilis 1, 2
cayana 2
cincta 2
ridgwayi, new species **1**
Cotingidæ 20
Cottogaster 47
Coyote 188
Cragin, Prof. F. W., collected fishes 63
Crane, Sandhill 197
Cranial characters of Lynx **8**
Craspedosoma atrolineatum, new species .. **618**
bollmani 619
glomeratum 619
Cratægus Holmesii, new species **43**
antiqua 43
spathulata 43
subvillosa 635
tomentosa 43
Crayon drawing 712
Creeper, Brown 227
Hook-billed 93
Olive-green 96
Creepers, The **606**
Cross, C. W., collected fossils 35, 39, 40, 42, 44
Crossbill, American 216
on Behring Island 143
Crotalus lucifer 239
Crotophaga ani 574
sulcirostris 582, 591
Crow, American 212
Crymophilus fulicarius 134, 163, 197, 234
Cryptops asperites 326
Cryptotrichus cæsioannulatus **333**
Crypturus megapodius 158
Cuckoo, Yellow-billed 204
Cuculidæ 204, 662
Cuculoideæ 141
Cuculus canorus telephonus 141, 484
himalayanus **484**

Page.

Cuculus kelungensis 484
peninsulæ 141
poliocephalus 484
tamsuicus 484
Cupressineæ 34
Cupuliferæ 38
Curaçao, corals from 13
Curlew, Australian 134
Bristle-thighed 83
Long-billed 199
Otaheite 83
Curtis, W. E 447
Cyanocephalus cyanocephalus 161, 213, 236
Cyanocitta cristata florincola 637, 669
"frontalis" 236
stelleri 161, 162, 211, 236
frontalis 211
Cybium 612
Cycadaceæ 31
Cycadeæ 32
Cycadeospadix 33
Cycadeospermum æquilaterale, new species **32**
faboideum, new species. **33**
impressum 33
subfalcatum, new species **33**
Wimillense 33
Cyclorrhynchus psittaculus 119
Cyclostigma densifolium 29
Cyclura bæolopha 437
carinata 437
cornuta 437
nubila 437
Cygnopsis cygnoides 136
Cymochorea cryptoleucura 78
Cyperaceæ 36
Cyperites borealis 36
canaliculatus 36
Cyphorhinus griseolateralis, new species .. **518**
lawrencii 585
salvini 518
Cyprinella billingsiana 243
forbesi 243
gunnisoni 243
macrostoma 244
suavis 243
umbrosa 243
Cyprinodon 480
varigatus 269
Cyrtonyx montezumæ 637, 656

D.

Dactyleptus 480
Dafila acuta 136, 194, 234, 636, 641, 647
crecca 136
Dakota, fossils from 21, 41
Dall, W. H 103
collected fossils 38
Dana, Prof. James D., work on Zoophytes. 10
William J 720
Danhauser, Jos 713
Daphnia abbreviata 154
longispina 154

Page.

Daphnia vernalis 154
Daption capensis 376, 378
Dardanelle Post on meteoric iron 599
Davis, J. P 720
Dawson, on fossils 24
Deer, Black-tailed 161, 164
Columbia 164
habits of, in California 165
law against killing 165
Mule 164
parasites of 166
time of shedding horns 167
Delacroix, Eugène, etching by 710
Demarteau, Gille, engraving by 712
Demiegretta 287, 300
candida 302
concolor 301
greyi 300, **302**, 415
measurements of **305**
jugularis, measurements of .. **302**
ringeri 415
measurements of **301**
new species **300**
sacra 301
Dendragapus "fuliginosus" 161, 162, 235
obscurus fuliginosus 200
Dendrocincla anabatina 488, 489, 490, 590
atrirostris 490, 492, 493
castanoptera 490, 493
new species **491**
delatrii 491
fumigata 492, 495, 497
homochroa 489, 491
ruficeps 489, 491
lafresnayei 489, 492, 495
longicanda 496
merula 490, 492, 495
merulina 495
meruloides 490, 495, 497
minor **497**
olivacea 489, 492, 590
review of genus **488**
ruficeps 491
rufo-olivacea, new species. 490, **493**
turdina 490, 492, 595
turdinea 492
tyrannina 489, 491
Dendræca auduboni 162
occidentalis 162
Dendrocolaptes atrirostris 492, 493
chunchotambo 509
fumigatus 495
merula 495
obsoletus, new species **527**
sancti-thomæ 589
turdinus 488, 492
Dendrocolaptine birds, new genus of **151**
Dendrocops 488
anabatinus 490
atrirostris 492, 493
fumigatus 495
merula 495
meruloides 495
olivaceus 492
turdinus 492

Page.

Dendrocops tyranninus 491
Dendrocopus fuliginosus 495
Dendrocygna arcuata 397
b. minor 397
awsuree 397
javanica **397, 415**
vagans 397
Dendroica æstiva 223, 236, 549, 579, 638, 685
americana 575
auduboni 223, 236
auricapilla, new species **572**
blackburniæ 638, 686
cærulescens 575, 638, 685
castanea 638, 686
coronata 223, 236, 638, 640, 642, 685
chrysoparia 638, 686
decora 585
discolor 576
dominica albilora 579, 638, 642, 686
maculosa 579, 638, 686
nigrescens 223, 236
occidentalis 161, 224, 236
palmarum 575
pennsylvanica 579
petechia gundlachi 572, 573
ruficvertex 572
virens 638, 642, 687
vitellina 574, 576
Dendromanes 488
anabatinus 490
atrirostris 492
homochrous 491
Dendrornis eburneirostris 580
fraterculus, new species **526**
guttatus 509
lawrencei costaricensis 589
costaricensis, new subspecies **510**
new species **509**
nana 509, 510
ocellata 509
pardalotus 509, 510
susurrans 509, 510, 526
Desmiophyllum gracile 30
Dewalquea Haldemiana 46
Diadophis punctatus amabilis 239
pulchellus 239
rubescens 439
Dianthœcia 462
Diaptomus ambiguus, new species **155**
Dicæidæ 98
Hawaiian 94
key to genera of **100**
Dichromanasa rufescens 303
Dichrozona zozonota, new species **524**
Dielmán, F. 722
Diemyctylus torosus 241
Dietterlin, Wendell, etching by 709
Dillaye, Blanche 732
Diomedea albatrus 125
nigripes 125
Diospyros ancepa 41
brachysephala 41
Texana 635
Diplodus, analysis of **65, 71**

Page.

Diplodus, annularis 71
argenteus **72, 73**, 74
candimacula 72
caribæus 70
chronological list of species **74**
flavolineatus 70
holbrooki 71, 74
unimaculatus 70
probatocephalus 68, 69
rhomboides 68
cargus **72, 73**, 74
Dipodomys Phillipsi 177
Dipper, American 225
Diatomum ovatum **367**
pellucidum 368
Dochy, engraving by 707
Dole, Sanford B. 90
Dole's Flycatcher 90
Doma, A., engraving by 707
Dormitator maculatus 270
Doubleday, quoted 339
Douglass's Chickaree 174
Lined-tailed Spermophile 171
Dove, Mourning 209
Dow, Capt. J. M 388
Drepania **100**
coccinea 97
(Hemignathus) ellisiana 93
pacifica 93
rosea 97
sanguinea 95
Dresser, H. E 121
on Texas birds 606
on Birds of Europe 104, 109
Drevet, Pierre Imbert, engraving by 708
Drew, F. M 233
Dryandroides lignitum 41
Dryobates "gairdnerii" 235
"harrisii" 235
nutalli 163, 205, 235
pubescens 637, 663
gairdnerii 205
purus 142
scalaris 642
bairdi 637, 640, 664
villosus harrisii 205
Dryocopus 489
turdinus 492
Dry-point engraving 711
Dry Tortugas, corals from 359
Duck, American Scaup 195
Canvas-back 194
Gadwall 193
Hawk 203
Lesser Scaup 195
Mallard 85
on Kauai Island 75
Pin-tail 85
Redhead 194
Ring-necked 195
Summer 194
Wood 194
Ducks and Geese in California 193
Dugès, Prof. A 531
fishes from **370**

	Page.
Dujardin, Karel, etching by	709
Dupérac, Étienne, etching by	709
Dupont, Henriquel	711
Durand, Asher Brown, engraving by	708
Dürer, Albert, wood-engraving by	706
etching by	709
Dusky-footed Wood Rat	177
Dusky Sandpiper	133
Duveneck, Frank	723
Dybowski, Dr. B.	103, 117, 118, 130, 136

E.

Eagle, Bald	202
Golden	202
Great Sea	141
Earlom, Richard, mezzotint by	710
East Indies, corals from	13, 17, 18, 19
Ebell, A. J., collections by	436
Ebenaceæ	41
Echeneidids	612
Echidna	481
Echinostrobus Sternbergii	34
Echitonium Sophiæ	41
Ecuador, starfishes from	447
Edwards, Charles L	617
Henry	478
W. H., collected fossils	23, 28
Egret, American	196
Intermediate	325
Little	316
Reddish	303
Southeastern	314
Egretta	313
modesta	314
nigrirostris	313
russata	309
syrmatophora	314
Eigenmann, Carl H	617
on a genera Lagodon, Archosargus and Diplodus	**65**
on fishes from Charleston	**269**
on new Ophichthys	**116**
Ektypography	716
Elacate	**612**
Elacatidæ	**612, 613**
Elacatidi	612
Elacatids, characteristics of	**612**
Elacatoidæ	612
Elainea martinica	574
Elanoides forficatus	592, 637, 642, 658
Elanus leucurus	163, 201, 235
Eldridge, George H., collected fossils	24, 29, 33
Electris amblyopsis	270
Elepaio, Hawaiian bird	89
Eleuthera, Bahamas	3
Elk, American	168
Elliott, D. G	273
Emberiza aldunatei	431
atriceps	435
ciopsis	487
coccinea	105
gayi	434
Emberiza personata	415
Embernagra striaticeps	580, 587
Embothrieæ	40
Emperor Geese	135, 196
Empidonax acadicus	637, 668
flaviventris	580, 637, 668
minimus	637, 668
obscurus	210, 236
pusillus	210, 236
traillii	637, 668
Engraving, aquatint	711
dry-point	711
clay-surface process	717
half-tone process	726
intaglio	707
Ives process	727
mezzotint	710
nature printing	718
photo-mechanical	723
processes of	705
relief	705
stipple	712
wax process	717
wood	704, 718
Engyptila rufinucha	583
vinaceiventris, new species	**583**
Eniconetta stelleri	137
Entomological Society of Ontario	341
Entomostraca on Commander Islands	154
Eopsaltria sandvicensis	89
sandwichensis	89
Epicrates versicolor	439
Epinephelus drummond-hayi	**269**
morio	501
Epiphthalmus for Gobiomoroides	480
Eques	480
acuminatus	270
Equietus for Eques	480
Equisetaceæ	22
Equisetæ	22
Equisetites species	22
Erethizon dorsatus epixanthus	178
Ereunetes occidentalis	163, 198, 235
pusillus	578
Ericaceæ	41
Erithacus akahige	486
Erodiscus	288
Erodius	313
victoriæ	313
Erythrosterna albicilla	144
Essex Institute	10
Estes & Lauriat	719
Etching in the United States	724
methods of	704, 708, 721
soft-ground	714
Etheostoma	47
(Alvarius) fonticola, new species	**63**
aspro	50
blennioides	53
(Cottogaster) uranidea, new species	**48**
cragini	62
(Etheostoma) luteovinctum, new species	**58**

Page.

Etheostoma (Etheostoma) parvipinne, new species. **59**
punctulatum . **60**, 61
saxatile..... **57**
tuscumbia, new species. **63**
whipplei..... 61
(Hadropterus) cymatotænia, new species. **51**
nianguæ, new species **52**
onachitæ, new species **49**
squamatus, new species. **50**
inscriptum 56
lepidum 284, 250, 252
lynceum..... 54
macrocephalum..... 52
microperca 64
nianguæ spilotum **53**
olmstedi..... 57, 58
phoxocephalum 50, 52
præliare 64
(Rothœca) biennius, new species **55**
rupestre **57**
shumardi 48
simoterum..... 55
thalassinum 57
(Ulocentra) histrio, new species **47**
uranidea..... 49
whipplei alabamæ **62**
zonale..... 47, **54**
arvanaanum..... 54
Etheostomoids, new **47**
Euerythra, the species of..... **335**
phasma 335, 336
trimaculata, new species..... **336**
Euetheia olivacea 574
Eugene, Ind., fossils from..... 24, 27
Eufaula, Indian Territory..... 23
Eulithobius 263
Eumeces skiltonianus..... 238
Eunetta falcata 136
formosa 136
Eupatorium ageratoides 343
Euphonia gouldi..... 585
Euprepria..... 344
Eurasian Lynxes 8
Eurycercus glacialis, new species..... **154**
" lamellatus 154
Eurystomus orientalis 402, 415
pacificus..... 403
Euryzona **396**
sepiaria, new species.....**395**,415
Eutænia atrata 240
elegans 240
hammondi..... 240
sirtalis..... 240
obscura 240
parietalis 240
pickesingi 240
tetratænia 240

Page.
Eutænia vagrans..... 204
Euvaccinieæ 42
Exseristigma 450

F.

Fagus Deucalionis..... 38
Falica atra, trematode in..... 369
Falco albigularis 583, 592
anatum 163, 235
buteo, trematode in 369
columberius 263, 235, 576, 637
communis var. orientalis..... 402
fusco cœrulescens..... 552
grebnitzkii..... 139
gyrfalco var. sacer, type of..... **140**
holbœlli..... 140
islandus 141
mexicanus 202, 345, 637, 660
nisus, trematode in 369
pealei 141
peregrinus 141, **401**, 415, 483
anatum 203, 576, 642, 660
richardsoni 203, 235
rusticolus **139**
grebintzkii..... 141
sacer 141
sparverinus.....162, 203, 235, 637, 642, 660
subbuteo, trematode in..... 369
Falconer, J. M..... 722
Falconidæ 201, 658
Falcon, Aplomato..... 552
Peregrine 401
Prairie..... 202
Fan-tail Warbler..... 407
Farallone cormorant 192
Farinati, Paolo, etching by 709
Farquhar, Col. F..... 13, 17
Farres, Henry 722
Feckert, G. H. G 714
Feilner, Lieut. John..... 159, 241
Felidæ 189
Felis concolor..... 189
lynx 9
Felter, J. D 719
Fencker, Governor, collected birds 140
Ferris, S. J..... 723
Ferruginous Rough-leg 202
Festuceæ 35
Ficus atavina 40
protogea..... 40
tiliæfolia 40
Fiebig, Charles..... 197
Fiji Islands, corals from 11, 15, 16, 17, 18, 19
Filices, fossil..... 23
Fillebrown, F. E 720
Filmer, John..... 720
Finch, California Purple..... 215
Cassin's Purple 215
House..... 215
Western Lark..... 216
Finsch, Dr. Otto 120, 304, 529
on food of Apapane 96
on Hawaiian birds..... 82
Fisher or Marten 287

	Page.
Fishes of Kansas	242
Fittonia species	32
Flameng, Léopold, etching by	710
Flammulated Screech Owl	206
Flicker, Northwestern	206
Red-shafted	206
Florida cœrulea	303
corals from	13, 17, 356
fossils from	28
Herons	114
Flower, Professor, on Lynxes	
Flycatcher, American	92
Ash-throated	209
Brown-faced	89
Doles	90
Japanese	406
Latham's Sandwich	87, 88
Little	210
Olive-sided	209
Sandwich	89
Sclater's Spotted-winged	86
Spotted-winged	89
Wright's	210
Flycatchers	143
Flycatching thrush	90
Fontaria evides, new species	**621**
montana, new species	**622**
rubromarginata, new species	**622**
trimaculata	622
measurements of	**623**
Forbes Lithograph Manufacturing Company	728
Foreman, Dr. E	22
Forster's Tern	192
Fort Huachuca, Ariz	551
Fossil plants, new species of	**21**
Foster, J., engraving by	719
Fournier, U., engraving by	707
Fox, Black	188
Coast Gray	188
Silver	188
Fratercula	124
corniculata	119
Fraxinus viridis	635
Fregata aquila	578
Fremont's Chickaree	173
French, Frank	720
Hon. H. F., corals from	13
Frenelopsis Hoheneggeri	35
Fringilla cælebs, trematode in	369
formosa	432
gayi	431
montana, trematode in	369
montifringilla	143, 415
zena	3
Fringillidæ	215, 672
Frog, Thick-skinned	241
Froment, engraving by	707
Fucaceæ, fossil	**21**
Fulica americana	197, 234, 637
atra	415
chloropus	78
Fulmarus	302
glacialis glupischa	125
Fundulus dugésii, new species	**373**
Fundulus guatemalensis	373
labialis	373
pachycephalus	373
punctatus	373
zebrinus	249, 250, 252

G.

Gadow, Dr. H	100
Gadwall, Duck	193
Galapagos Islands, star fishes from	440
Galbula melanogenia	591
Galeoscoptes carolinensis	575
Gallichthys	481
Gallinæ	655
Gallinago delicata	198, 235, 637, 640, 652
gallinago	128
hyemalis	128, 129
japonica	128, 129
scolopacina	129
solitaria	128
japonica	128, 129
Gallinula chloropus	78, 369, 415
euryzonoides	396
galeata	78, 642, 651
measurements of	**80**
sandvicensis	**78**
porcana	369
sandvicensis	78
type of	**80**
measurements of	**80**
Gallinule, Hawaiian	78
Gallinules	197
Gallus	480
Galvanography	715
Garman, Samuel	481
Garter Snake	240
Dusky	240
Pickering's	240
Garzetta	313, 315
egretta	316
Gasterodon for Serrasalmo	480
Gaugengigl, L., M	723
Gavarni, lithograph by	713
Gebbie and Husso Company	730
Geese, Emperor	135
and Ducks in California	193
Geiger, H. R., collected fossils	25
P. J. N	713
Gelochelidon nilotica	641, 644
Geococcyx californianus	163, 204, 235, 376, 385, 637, 640, 642, 662
Geomyidæ	177
Geophilus brunneus, new species	**331**
californiensis, new species	**624**
cephalicus	624
georgianus	624
indianæ, new species	**331**
latro	624
mordax	624
okolonæ	624
oweni, new species	**623**
perforatus	624
puncticeps	624
varians	332

Page.

Geothlypis bairdi 585
formosa 638, 687
macgillivrayi 161, 162, 224, 237
"occidentalis" 161, 237
philadelphia 638, 688
trichas 638, 642, 688
occidentallis 224
Geronticus nippon 272
Gerrhonotus multicarinatus 238
scincicaudus 238
Getchell, Edith L 722
Gibbons, P 727
Gifford, R. S 722
Gilbert, Charles H., on Etheostomoids **47**
on new Thalassophryne **388**
G. K., collected fossils 34, 38, 43
W. B., bird from 152
and Swain, on new fishes **50, 55**
Gill, Theodore, on Elacatids **612**
on Gramma loreto **615**
Ginkgo adiantoides 35
Glaucionetta clangula 137
americana 195, 234, 641, 647
Glaucidium gnoma 204, 235
phalænoides 593
Glaucous-winged Gull 191
Gleditschia triacanthos 635
Glossy Ibis 84
Glyphography 716
Glyphorhynchus cuneatus 590
Glyptostrobus Ungeri 34
Gmelin's Scolopax tahitiensis 83
Gnatcatcher, Blue-gray 230
nest and eggs of **549**
Goatsuckers 206
Gobiesox 480
Gobioides 480
Gobiomoroides 480
Godwit, Marbled 198
Goisachius, melanolophus 292
Goisakius 292
Golden-crowned Sparrow 218
Golden Eagle 202
Goldfinch, American 217
Arkansas 217
Green-backed 217
Goltzius, Hendrik, engraving by 707
Goniobasis 498
Goode, G. Brown 354
Goodea atripinnis 370
Goose, American white-fronted 195
Canada 195
Emperor 196
Hutchin's 195
Lesser Snow 195
Gopher, Pacific Pocket 177
Gophers of California 177
Gorsachius 286, 292
goisagi 482, **292**
goisaki 292
Gosakius 292
Goshawk, Western 201
Graef, E. L 467
Gramineæ 35

Page.

Gramma loreto, note on **615**
Grammidæ 616
Grammistes unimaculatus 69
Grand Cayman, birds from **572**
Graphic arts, catalogue of exhibit of **701**
section of 702
Graphotype Company 717
Gray Gyrfalcon 139
S. C., fossils from 25
Great Blue Heron 114, 196
Gray Owl 203
Sea Eagle 141
White Heron 114
Greater yellow-legs 198
Greatorex, Eliza 722
Grebe, American eared 190
Clark's 190
Horned 190
Pied-billed 190
Western 190
Grebes 643
Grebnitzki, Mr 125, 130
Green, Fred. C., collected fossils 24
L. W 164
Valentine, mezzotint by 710
Heron 197, 198
Greenland, birds at 140
fossils from 34, 38, 40, 42, 44
Green Sickle-bill 93
Green-winged Teal 194
Grewiopsis acuminata, new species **44**, 45
viburnifolia 45
Walcotti, new species **45**
Grien, Hans Baldung, engraving by 706
Grizzly Bear 183
Grosbeak, Black-headed 220
Blue 221
Evening 215
Grouper 501
Grouse, Columbian Sharp-tailed 200
Oregon Ruffed 200
Sage 200
Sooty 200
Gruidæ 197, 650
Gruoideæ 134
Grus americana 637, 642, 650
canadensis 134
orientalis 134
mexicana 197, 234, 637, 642, 650
Guanajuato, Mexico, fishes from 370
Guiraca cærulea 221
cærulea 236
concreta 586
Gull, Bonaparte's 192
California 191
Glaucous-winged 191
Ring-billed 192
Short-billed 192
Western 191
Günther, Dr 67
Gurney, J. H 402
Gutekunst, F 728
Guy, S. J 723
Gymnomuræna 481
Gymnopsis for Gymnomuræna 481

Page.

Gymnostinops montezuma 588
Gyrfalcon, Gray 139

H.

Habia ludoviciana 638, 680
melanocephala 220, 236
Haden, F. Seymour, etching by 709
Hadropterus (*see* Etheostoma) 47
Hæmatopodidæ 655
Hæmatopus osculans 125
palliatus 642, 655
Hague, A., collected fossils 36, 39
Hainarts, Professor 30
Halcyon coromanda **403**, 415
rufa 403
major 403
rufa 403
Hale, Miss E. D 722
Haliæëtus hypoleucus 141
leucocephalus 141, 202, 637, 660
Haliætus leucocephalus 162, 235
Halsophis vudii 439
Hamilton, C. L., corals from 17
Hamilton 723
James 715
Hammond, Dr 173
Hancock, Joseph L., on Texas birds 696
Haplos 344
Haplodon major 174
rufus 161, 174
Haplodontidæ 174
Hare, Audubon's 181
California 181
Little Chief 180
Prairie 181
Trowbridge's 181
Western Varying 181
Harper & Brothers, collections from 704
Harporhynchus crissalis 554
longirostris 506, 642, 690
sennetti, new subspecies .. **506**
redivius 161, 225, 237
rufus 636, 638, 689
var. longirostris 506
Harrisonville, Pa., fossils from 28
Harroun & Bierstadt 728
Harvard College 10
Havard, Dr. V., on botany of Texas 696
Hawaiian Gallinule 78
Islands, birds of 75, **389**
Hawk, American rough-legged 202
Cooper's 201
Duck 203
Fish 203
Marsh 201
Pigeon 203
Red-bellied 202
Sharp-shinned 201
Sparrow 203
Swainson's 202
Zone-tailed 551
Hawks on Kauai Island 75
Hay, Prof. O. P 57, 58
on fishes of Kansas **242**

Page.

Hayes, E. D 719
Hayti, corals from 13, 17
Hecht, William, engraving by 706
etching by 710
Heer, work on fossils cited 27
Heerman's Song Sparrow 219
Heinemann, E 720
Heliaster **440**
Cumingii 440, **443**
helianthus 441, **446**
Kubingii 440, 441, 447
microbrachia 440, **441**, 443, 444
multiradiata 440, 444, **447**
Heliographic Engraving Company 729
Heliotype Printing Company 728
Heliotypes 728
Helminthophaga "gutturalis" 162
"lutescens" 162
Helminthophila celata 638, 642, 685
lutescens 161, 223, 236
chrysoptera 638, 685
"gutturalis" 236
pinus 642, 684
ruficapilla 638, 685
gutturalis 223
Hemignathus 98, **100**
lucidus 93
obscurus 93, **94**
Hemiura for Uropsila **511**
Henicops fulvicornis 265
Henicorhina leucosticta 585
Henry, Col. Sir James 727
Henshaw, H. W 150, 194, 197, 201, 210, 239, 241
Henson, Harry V 271, 402, 416
Herkomer, Hubert, etching by 709
Hermit Thrush 231
Herodias 287, 300
alba **313**
modesta **314**, 415
andamanensis 301
brachyrhynchos 315
candida 313
eulophotes **313**, 317, **318**
garzetta **313**, **316**, 317
nigripes 317
greyi 302
immaculata 318
intermedia **313**, 315, **316**
jubata 316
latidii 314
lindermayeri 316
matook 301
melanopus 318
modesta **313**
measurements of 315
nigripes 317
plumiferus 315
russata 309
synopsis of **313**
torra 314
Herodii in Japan **271**
Herodiones 648
Heron, Black-crowned Night 84, 197
Bluish 75
Eastern Cattle 309

Page.

Heron, Eastern Pond 307
Florida 114
Great Blue 114, 196
White 114
Green 197, 298
Japanese 286
Night 295
Purple 311
Reef 300
Squacco 305
White Reef 302
Herpsilochmus argentatus 523
Herrick, H. W., engraving by 719
Hesperocichla nævia 231, 237
Hesperomys leucopus 176
sonoriensis 176
Heteractitis brevipes 83, 133, 414
incanus 133
measurements of **83**
Heterocnemis albiventris 523
argentatus 523
hypoleuca, new species **523**
Heteropara appressa 12
Heterorhynchus 93, 98, **100**
Heteroscelus incanus 83
Hexaglena, new genus **328**
cryptocephala, new species **328**
Hierofalco grebnitzkii 139
Hill, John Henry 722
Himantopus brasiliensis 81
candidus 81
knudseni, new species **81**
mexicanus 81, 163, 198, 235, 637, 642, 651
measurements of **82**
nigricollis 81, 82
Himatione 98, **100**
chloris 94, 96
measurements of **97**
flava 94, 96
maculata 94
parva, new species **94, 95**
sanguinea 94, 95
measurements of 96
virens 95, 96
Hippocampus punctulatus 269
Hirundinidæ 221
Histrionicus histrionicus 137
Hodge, Col. E. B 628
Holmes, W. H., collected fossils 40, 43, 46
Homalochilus chrysogaster 439
Homasassa, corals from 17
Hondo, Japan, new Turdus from 6
Honolulu, birds from 80
Hooded Merganser 193
Hook-billed Green Creeper 93
Hopkins, G. E 723
Hopper, Daniel, etching by 709
Hoplocercus 437
Horn, Dr. G. H., collected fossils 28
Horned Grebe 190
Owl, Dusky 204
Western 204
Toads 238
Hoskin, Robert 720

Page.

Houghton, Mifflin & Co. 719
House Finch **215**
Hovenden, Thomas 723
Howland, William 719
Hughes, Elizabeth G., on Lagodon, etc. **63**
Hume, A 319
A. O 294
Humming-bird, Anna's 208
Black-chinned 207
Calliope 209
Rufous 208
Hunter, Capt. J. E 106, 123, 139
Hutchin's Goose 195
Hyalography 716
Hybognathus (Dionda) nubila 252
nuchalis **251**, 253
Hybopsis biguttatus 250, 252
storerianus 250
taurocephalus 247
Hyborhynchus notatus 246
Hybrid bird 113
Hydrochelidon nigra surinamensis 163, 192, 234
Hyla, Pacific 241
regilla 241
Hylodes planirostris 436
ricordii 436
Hylophilus decurtatus 579
ochraceiceps 585
Hyodon alosoides 242, 250
Hypercompa 342, 344
carolina 352
clymene 352
colona 352
confinis 352
conscita 352
contigua 352
fulvicosta 352
interruptomarginata 352
militaris 352
lecontei 352
vestalis 352
Hypotænidia 396
Hypocentor aureolus 142
rusticus 142
variabilis 142
Hypotriorchis albicilla 141
subbuteo 141
Hypsipetes amaurotis 399, **404**, 415, 484
pryeri 399, 403, 415
squamiceps 484
Hystricidæ 178

I.

Ianthia cyanura 415
Ianthocnas kittlitzi 421
metallica 420
Ibididæ 196, **271**, 272, 648
Ibidinæ 271, 272
Ibidoideæ, synopsis of **271**
Ibis æthiopicus 274
Black-headed 274
melanocephalus 274
nippon 272
propinqua **274**

	Page.
Ibis sinensis	272
White-faced Glossy	84, 196
Ibises, Storks, and Herons of Japan	**271**
Icichthys	631
Icosteus	631
Icterus komadori	**404**, 415
namiyei	404, 415
I. C. Russell, collected fossils	23
Ictalurus punctatus	242, 247, 251
Icteria "longicauda"	337
virens longicauda	224
Icteridæ	669
Icterus bullocki	214, 236, 642, 671
galbula	580, 637, 671
giraudi	588
prosthemelas	580, 588
spurius	637, 642, 671
Ictinia mississippiensis	637, 658
Ictiobus velifer	**242**, 247, 251
Ictiopogon for Bostrychus	481
Idzu, birds of	**482**
Ilex decidua	635
Illinois, fossils from	23, 24
Imperial Academy of Sciences	420
Indiana, fossils from	24, 27
new Myriapods from	**328**
University	65, 116
Indian Territory, fossils from	23
Inlus multiannulatus, new species	**334**
Intaglio engraving	707
processes	729
Ionornis martinica	637, 651
Iridaceæ	36
Irideæ	36
Irites Alaskana, new fossil	**36**
Ives & Barret	725
Iwi, Hawaiian bird	93

J.

Jacana gymnostoma	584
Jack Rabbit	181
Jacque, Charles, etching by	710
Jacquemart, Jules, etching by	710
Jæger	124
Parasitic	191
Richardson's	302
Janthaenas	418
Janthia cyanura	145
Janthoenas	416
ianthina	398
janthina	415, 418, 419, 420
measurements of	**399**, **483**
jouyi	**398**, **399**, 415, 418, 419
measurements of	**399**
kittlitzi	419
nitens	418, 419, 421
palumboides	419
synopsis of	**418**
versicolor	418, 419
Japanese birds, genus Turdus	**4**
L. Stejneger on	**606**
review of	**271**
Carrion Crow	**320**
Pigeons	**416**
Reef Heron	300
Japan Ibis	272
islands of Idzu	**482**
Spoonbill	275
Jay, Arizona	554
Blue-fronted	211
California	211
Oregon	211
Piñon	213
Steller's	211
Jewett & Chandler	717
Johnson, G. E	721
T	721
Jones, Dr. W. H	12, 447
Jordan, Prof. David Starr	6
collected fishes	47, 65
on "Analyse de la Nature"	**480**
fishes from Charleston	**269**
new Callionymus	**501**
new Thalassophryne	**388**
new Xyrichthys	**698**
Polynemus	**322**
and Gilbert, new species by	**47**, **48**
Josey, Richard, mezzotint by	710
Jouy, P. L	278, 282, 311, 400, 416
collected birds	4, 271
Jouy's Thrush	5
Juengling, Frederic	730
Juglandaceæ	40
Juglans acuminata	40
nigra	635
Julus impressus	324
lineatus, new species	**334**
montanus	617
pilosiscutis	617
Jumping Mouse	178
Junco hyemalis	638 677
oregonus	219, 677
shufeldti	638, 677
Oregon	219
"oregonus"	162, 204, 236
Juncus militaris	37

K.

Kamao, an Hawaiian bird	94, 95
Kämpfer, History of Japan by	286
Kamtschatka, birds of	117
Kamtschatkan Carrion Crow	**320**
Kangaroo Rat	177
Kansas, fishes from	63
of	**242**
Kauai, Hawaiian Islands	389
Kauai Island, birds of	**75**
description of	76
Kentucky, fossils from	23
Kerography	716
Key West, corals from	17
Killdeer in California	199
King, F. S	721
James S	723
Kingbird, Arkansas	553
Western	209
Kingdon & Boyd	719
Kingfisher, Belted	205
Ruddy	403

Page.

Kinglet, Ruby-crowned 230
Western Golden-crowned 230
Kingsley, Elbridge 721
King Snake of California 239
Kinnersley, A. F., engraving by 719
Kirwin, Kans., fishes at 247
Kite, White-tailed 201
Kites on Kauai Island 75
Klackner, C 704
Klinkicht, M., engraving by 707
Knorria species 29
Knot in California 198
Knowlton, F. H., on fossil plants **21**
Knudsen, Valdemar **75**, 82, 84, 87, 389
Knudsen's Stilt 81
Kobell, F. von, engraving by 715
Koehler, S. R., on graphic arts **701**
Kolea, Hawaiian bird 80
Korea, birds from 274
Kraus, H 82
Kretzschmar, Edward, engraving by 706
Kriehuber, Joseph 713
Kruell, G 721
Kunz, George F., on meteoric iron **598**
Kurile Islands, bird from 126
Kurtz, William 727

L.

Lacertilia 436
in California 238
Lagodon, analysis of **65, 66**
chronological list of species 74
rhomboides **66**, 74
Lagomyidæ 180
Lagomys princeps 161, 180
Lagopus ridgwayi 139
Lalanne, Maxieme, etching by 710
Lampetra from Mexico 370
spadicea, new species **374**
Langridge, J. L 719
Langston, J. M., corals from 13, 17
Laniidæ 222, 683
Laniocerca rufescens 589
Lanius brachyurus 486
"excubitorides" 236
ludovicianus 222
excubitoroides 222, 553, 638, 640, 642, 683
major 143
minor, trematode in 369
species 410, 415
Laridæ 191, 643
Lark, Ruddy Horned 210
Streaked Horned 210
Western Meadow 214
Laroideæ 119
Larus affinis 119
measurements of **123**
argentatus 119, 376, **381**
smithsonianus 641, 643
atricilla 641, 643
brachyrhynchus 163, 192, 234
cachinnans 119
californicus 191, 234, 376, 381, 382
canus 123

Page.

Larus canus trematode in 369
crassirostris 482
delawarensis 192, 234, 641, 643
fuscus 120
glaucescens 119, 163, 191, 234
glaucus 119
kamtschatchensis 123
leucophæus 121
marinus 119
michahellis 121
occidentalis 163, 191, 234
orientalis 119
philadelphia 163, 192, 234, 381
ridibundus 122
schistisagus **119**
measurements of **122**
Lasalle, Émile 714
Lassen's Peak, California 163
Latham's Hook-billed Green Creeper 93
Olive-Green Creeper 96
Otaheite Curlew 83
Sandwich Flycatcher 87, 88
La eæ 41
Laurus socialis 41
Lawrence, General 267
George N 505
on new Catharus **503**
Lazuli Bunting 221
Least Sandpiper 198
Leggo Brothers & Co 726
Leguminosæ 43
Leguminosites species 43
Leibl, William, etching by 710
Lemercier, Lerebour & Barreswil 727
Lepidocystis fraxiniformis 29
Lepidodendreæ 28
Lepidodendron aculeatum 28
clypeatum 28
corrugatum 28
variety 28
dichotomum 28
var. obovatum 28
Gaspianum 28
modulatum 28
Rushvillense 29
Veltheimianum 29
Lepidodendrum acuminatum 28
Lepidophyllum majus? 29
Lepidosteus osseus 247
Lepidostrobus variabilis 29
Lepidoxylon 30
Lepomis cyanellus 243, 249, 250, 252
humilis **243**, 247, 256, 252
Leporidæ 181
Le Prince, Jean Baptiste 711
Lepterodatis flavirostris 313
Lepterodias 313
schistacea 313
Leptopus 481
Lepus americanus Washingtoni 181
californicus 181
campestris 163, 181
sylvaticus Audubonii 181
Trowbridgei 181
Lernanthropus Brevoortia, new species .. **563**

Page.

Lemanthropus Pomatomi, new species ... **567**
Leslie, Charles C., fishes from 269
Les Oroides 481
Lesquereux, Leo, on fossil plants **21**
Lesser Scaup Duck 195
Snow Goose 195
Whistling Teal 397
Les Sphæroides 480
Leucerodia 275
Leuciscus bubalinus 243
lutrensis 243
Leucopternis gheisbrechti 592
semiplumbeus 592
Leucosticte griseonucha 142
Levey, Mr., collected fossils 40
Levuka, Fiji Islands 11
Leyden, Lucas van 707, 709
Museum, Holland 281
Liberty Spring, Ark 28
Lichtenstein, Mr. 93
Lightfoot, M. P., collected fossils 23
Lilljeborg, W., on Entomostraca 154
Limicolæ 651
Limnobænus 395
(Porzana) 396
Limosa ægocephala 131
melanuroides 131
brevipes 131
fedoa 131, 163, 198, 235, 642, 652
hæmastica **131**
lapponica baueri 130, **131**
limosa **131**, 132
melanuroides **131**
melanura 131
melanuroides 131, **132**
totanus 131
Linton, Edwin, on Trematode **367**
Henry, engraving by 706
W. J 720
Liocephalus carinatus 437
loxogrammus, new species **437**, 438
personatus 437
raviceps 437
trigeminatus 437
Lippincott, W. H., engraving by 711
Liriopetalum endasym, new species 324, **330**
Lithobiidæ, notes on **254**
Lithobius atkinsoni, new species **625**
aureus 266, **327**
aztecus **255, 259**
bilabiatus **254**, 265
bipunctatus 265
cantabrigensis 266
cardinalis, new species **254, 258**, 265
clarus, new species **255**, 262, 266, **326**
eigenmanni, new species **625**
eucnemis 266
exiguus 265
forficatus **255, 260**, 266
howei, new species **255, 259**, 266
jowensis 265
juventus, new species 254, **263**, 266
key to new species of **254**
kochii **254**, 265
leptopus 627

Page.

Lithobius lundii 265
megaloporus 266
mexicanus 266
minnesotæ, new species **254, 255**, 265
monticola 265
mordax 255, 262, 266
multidentatus **255, 263**, 266
mysticus 266
obesus 265
paradoxus 265
paucidens 266
pinetorum 266
planus 266
politus **255, 261**
proridens, new species **254, 257**, 265
pullus, new species **254, 257**, 265
pusio 265
saussurei 266
toltecus 265
transmarinus 266
trilobus, new species **254, 258**, 265
tyrranicus, new species **626**
vorax 266
xanti **255, 261**, 266
Lithœnas 422
Lithography, methods of 712
Litnobius mordax 326
Little Flycatcher 210
Liu Kiu Islands 296
avifauna of 391
Lizard, Alligator 238
Many-keeled 238
Pacific Water 241
Pigmy Horned 238
Skink-tailed 238
Thayer's Alligator 238
Lobotes surinamensis 270
Lobotidæ 615
Locustella brunniceps 407
Lomatia saportanea 40
Long-billed Curlew 199
Longipennes 643
Long-winged Swimmers 643
Loon, Pacific 191
Red-throated 191
Lophidius for Lophius 481
Lophius 481
Lophodytes cucullatus 193, 234, 636, 641, 646
Lorrain, Claude, etching by 709
Louisiana Tanager 221
Lower Amazon, birds from **516**
Loxia curvirostra minor 216
minor 161, 236
pyrrhula 105
rubicilla 105
species 143
Loxops 94, 99, **100**
coccinea 94
rosea 97
Lunda 124
cirrhata 119
Lutjanini 615
Lutjanus aya 501
blackfordi **512**
Lutra canadensis 185

Page.

Lycopodiaceæ 27
Lycopodites tenerrimus 27
Lyncus, genus 8
Lynceus lamellatus 154
Lynx, Canada, cranial characters of **8**
canadensis 8, 9
cervaria 9
fasciatus 8, 9
maculatus 8, 9
Red 189
rufus 8, 189
Lynxes, Eurasian 8

M

Mabuia agilis 438
cepedii 438
Mackenzie River, fossils from 34
Maclura aurantiaca 635
Macrochires 665
Macrorhamphus griseus 637, 642, 652
Macrostachya 23
Madrepora abrotanoides 12
acervata, type of 12
aculeus, type of 12
alces, type of 17
appressa 12, 18
arbuscula, type of 12
aspersa, type of 12
brachiata, type of 12
carduus, type of 12
catalogue of **10**
cerealis, type of 13
cervicornis 13, 17
conferta **13**
conigera, type of 14
contigua 354, 366
convexa, type of 15
cribripora, type of 15
cuneata, type of 15
cuspidata, type of 15
cyclopea, type of 15
cytherea, types of 15
Danæ, type of 15
deformis 11, 15
divaricata, type of 15
echinata 15
exigua, type of 15
flabellum 17
florida, type of 15
formosa, types of 15
globiceps, type of 16
gracilis, type of 16
hebes, types of 16
horrida, type of 16
humilis, type of 16
hyacinthus, types of 16
hystrix, type of 16
implicata, type of 19
labrosa, type of 16
nasuta, type of 16
nobilis, types of 17
palmata 11, 17
alces 17
flabellum 17
patella 14

Page.

Madrepora paxilligera, types of 17
plantaginea 11, 18
prolifera 13, 17
prolixa, types of 18
prostrata, type of 18
pumila, type of 18
ramiculosa, type of 18
retusa, type of 18
robusta, type of 18
rosaria, types of 18
secale 11, 18
secunda 11, 17
securis, type of 18
spicifera, types of 18
abbreviata 18
striata, type of 18
subulata, type of 19
surculosa, type of 19
tennis, type of 19
teres, type of 19
tortuosa, type of 19
tubicinaria, type of 19
tumida, types of 19
turgida, type of 19
valida, type of 19
virgata, type of 19
Magnolia Inglefieldi 46
Magnoliaceæ 46
Magpie 199
American 210
Yellow-billed 211
Mallard Duck 85, 190
Mamestra 463
assimilis 463
canadensis, new species 464
incurva, new species 466
lepidula, new species 463
minorata, new species 467
niveiguttata 471
obscura, new species 468
olivacea 465
prodeniformis, new species 464
pulverulenta, new variety 468
rectilinea, new species 465
subapicalis, new variety 463
variolata, new species 467
vau-media, new species 466
Mammals of Northern California 159
Mansion, L 713
Mantegna, Andrea, engraving by 707
Maratti, Carlo, etching by 709
Marbled Godwit 198
Marcantonio, engraving by 707
Marcou, J. B., fossils from 33, 36, 46
Mareca americana 136
awaurea 397
penelope 136
Margaritana deltoides 406
Marmot, Rocky Mountain 170
Marsh Hawk 201
Henry 720
Marten, Pennant's 187
or Sable 188
Martin, Purple 221
Marvy, Louis, engraving by 714

Page.

Masson, Antoine, engraving by 708
Mather, Fred 628
Maynard, C. J 114
McElwain, Robert 28, 31
McKimley, C., collected fossils 31
McLaughlin, Miss M. Louise 711, 725
McNeill, Jerome, on Florida Myriapods ... **323**
new Myriapods **328**
Meadow Lark, Western 214
Mouse 176
Meciatocephalus foveatus, new species .. 325, **333**
strigosus, new species ... **332**
umbraticus 332
Meek, F. W 28
Prof. S. E 47, **50**
Megaderus for Echidna 481
Megaphalus for Gobiesox 480
Megarhynchus pitangua 588
Megascops asio bendirei 203
kennicottii 203, 235
mccallii 637, 642, 662
elegans 401, 415
flammeolus 204, 235
hastatus, new species **268**
japonicus 302
semitorques 415
vermiculatus, new species **267**
Meisenbach Company 726
Melanerpes aurifrons 637, 640, 642, 665
"bairdi" 235
carolinus 637, 642, 664
erythrocephalus 637, 664
formicivorus 591
bairdi 206
torquatus 162, 206
Melanopelargus 285
Meleagris gallopavo 637, 640, 642, 657
Melia azedarach 635
Mellisuga coccinea 97
Melodes calliope 145, 406, 415
Melospiza fasciata 638, 678
guttata 219, 236
heermanni 161, 219, 236
samuelis 163, 219, 236
lincolni 219, 236, 638, 640, 642, 678
Menhaden, parasite of 567
Menzel, Adolf 713
Mephitis mephitica 185
putorius 185
Merganser, American 193
americanus 193, 234, 636, 645
Hooded 193
Red-breasted 193
merganser 138
serrator 138, 163, 193, 234
Mergus albellus 138
Merops, on Atooi Islands 75
Merriam, Dr. C. Hart 174, 515
Merrill, Dr. James C., on Texas birds 696
Merritt, Anna Lea 722
Merula grayi 584
migratori 554, 638, 642, 695
propinqua ... 162, 231, 237, 554, 695
obscura 4
Mesoprion campechianus 512

Page.

Mesoprion vivanus 512
Meteoric iron, analyses of 603
in Arkansas **598**
locations of falling 598
size of 601
Mexico, fossils from 22, 26, 31
new species of fishes from **370**
star-fish from 449
Mezzotint, method of making 710
Mice of California 175
Microcerculus daulias, new species **508**
luscinia 508
philomela 508
Micropalama himantopus 637, 652
Microperca punctulata 64
Micropodidæ 207
Micropodus for Cheilio 480
Micropus pacificus 142
Miller, Benjamin, collected fossils 23
Charles H 722
Millet, J. F., etching by 709
Milne-Edwards, Prof. A., cited 8
Milner, J. W., corals from 17
Milvulus forficatus 637, 642, 666
Mimocichla rubripes 575
Mimus gilvus gracilis 506
gracilis leucophæus, new subspecies **506**
orpheus 572
polyglottos 638, 640, 642, 689
Mineralography 718
Mineralotypy 718
Mink, American 187
Minnesota, species of Lithobius in 254
Minnilus cornutus 243
umbratilis 249
Minor, Robert C 722
Missouri, fossil from 28
new Unio from **498**
Mitchell, J. A 722
Mivart's work on the Cat, cited 8
Mniotilta varia 575, 578, 638, 642, 685
Mniotiltidæ 685
Moho apicalis 100, 101
braccata 100
measurements of **102**
nobilis **101**
nobilis, measurements of **102**
Mohoa braccata 100
fasciculata 100
Mole, Oregon 182
Molothrus ater 633, 637, 640, 642, 669
obscurus 637, 640, 670
Momotus lessoni 582, 591
Moniana aurata 246
gibbosa 243
lepida 243
Monks, J. A. S 723
Monticola solitaria 405, 415, 485
Moore, Charles H., mezzotint by 710
Moran, Emily K 722
Leon 723
Mrs. Nimmo 722
Percy 723
Peter 722
Thomas 722

Page.

Morin, Jean, etching by 709
Morus microphylla 635
rubra 635
Mosley, Prof. H. N., fossils from 32, 33, 34
Moss Engraving Company 726
Motacilla lugens 145
melanope 144, 415
ocularis 104, 145
scolopacina 606
Motacillidæ 225, 688
Mouilleron, A., lithograph by 714
Mountain Beaver 174
Boomer 175
Pocket Mouse 177
Quail 199
Sheep 169
Mount Shasta, outline of 160
Mourning Dove 200
Mouse, Jumping 178
Meadow 176
Pocket 177
White-footed 176
Moxostoma macrolepidotum 247
Mugiloides 480
Mugilomorus 480
Mule Deer 160, 164
Müller, Friedrich, engraving by 708
Ph. St. 89
Muller, R. A 721
Murænoblenna 481
Murænoides 480
Muridæ 175
Museum of Comparative Zoology 10
Musicapa hylocharis 406
maculata 86, 89
(Musicapula) tricolor 406
sandwichensis 86, **87**, 88, 89
zanthopygia 406
Muscisaxicola occipitalis, new species **430**
rufivertex 430
Muskrat, Blue 174
Mustela americana 188
pennanti 187
Mustelidæ 185
Myadestes obscurus 92
townsendi 162, 230, 237
Myadestinæ 92
Myers, J. M. T 328
Myiarchus cinerascens 209, 235
crinitus 580, 637, 642, 667
denigratus 574
lawrencei 580
mexicanus 580, 637, 667
Myiobius sulphureipygius 589
Myiodynastes luteiventris 589
Myiozetetes texensis 580, 589
Myriapods of Florida **323**
new species of **323**, **328**, 617
Myrica callicomæ folia 38
Studeri 38
Myricaceæ 38
Myrmotherula 524
fulviventris 590
Myxonum for Mugiloides 480

Page.

N.

Naiadaceæ 36
Namiye, Mr., birds from 391, 416, **482**
Nandidæ 616
Nannocnus 288, 291
Nanostoma 63
Nanteuil, Robert, engraving by 707
Naso 480
Nasonus 480
Naumann, Mr. 109, 121
Neal, James, collected fossils 28
Nectarinia byronensis 95
flava 96
Negundo aceroides 635
Nelumbium luteum 37
Nelson, E. W 9, 35, 36, 37, 268, 697
Neolithobius, analysis of **626**
clarus 626
juventus 627
latzelli 626
mordax 627
terreus 627
transmarinus 626
tyrranicus 627
vorax 627
Neotoma cinerea 176
fuscipes 177
Nesbit, Charlton, engraving by 706
Nest and eggs of Gnatcatcher 549
of Least Tit 229
Nettion crecca 397, 415
Neuropteridæ 24
Neuropteris biformis 24
Carrii 24
cordata 24
decipiens 24
Elrodi 24
hirsuta 24
Loshii 24
obscura 24
rarinervis 24
retorquata 24
Smithii 25
Nevada, fossils from 35
Newberry, Dr. J. S 159, 241
New Jersey, fossils from 36
Newton, Prof. Alfred 383, 385
Prof. H. A 21, 601
Niangua River, Missouri, fishes from 50, 53
Nicoll, J. C 722
Nighthawk, Western 207
Night Heron 84
Black-crowned 384
Gray 295
Great Blue 384
Thick-billed 296
Yellow-crowned 295
Nightingale, Kamtschatkan 406
Ninox japonica 401, 415
Nipponia nippon **272**
measurements of **274**
temminckii 272
Nishi, Mr 397
Noctua 344

Page.

Noctuidæ, new genera and species of..... **450**
Noeggerathia..... 32
Nœggeratieæ..... 32
Nordenskiöld, Professor 135, 155
North American Otter 185
Northern Flying Squirrel 174
North Pacific Exploring Expedition 10, 354
Northwestern Flicker..... ... 206
Norton, W. M., collected fossils..... 35
Notothenia..... 616
Notropis æneolus, new species..**245**, 248, 251, 252
deliciosus.....246, 247, 249, 250, 252
germanus, new species **252**
lutrensis....242, **243**, 248, 249, 250, 252, 253
macrostoma 244
megalops 243, 247, 249, 250, 252
topeka 246
umbratilis..... 249
Nothonotus 63
Nothura maculosa, osteology of 157
Notornis flavus.....250, 253
Numenius arcuatus, trematode in 369
arquatus 83
australis..... 83, 133
borealis 637, 654
cyanopus.....83, **133**
femoralis, type of 83, 84
hudsonicus.....637, 654
lineatus..... 415
longirostris.....199, 235, 637, 642, 653
major 133
rufescens 134
tahitiensis 83, 134
Nutcracker, Clarke's..... 212
Nuthatch, Pygmy 228
Red-breasted..... 228
Slender-billed..... 227
Nuttall's Whippoorwill..... 160
Nutting, C. C..... 502
Nyctanassa violacea 295
Nyctea nyctea.....141, 637, 662
Nycterodius 295
Nytherodius 295
Nyctiardea 295
melanolophos 292
Nycticorax.....287, 295
ardeola..... 295
badius 295
brevipes 295
calidonicus 297
crassirostris **296**
europæus 295
goisagi 292
gesneri..... 295
grisea 295
griseus..... 84, 298
nævius..... 84
infaustus..... 295
meridionalis..... 295
nycticorax 295, **296**, 398, 415
nævius 84, 197, 234, 376, **384**, 637, 642, 650
orientalis 295
violaceus.....637, 642, 650
vulgaris..... 295

Page.

Nyctidromus albicollis.....502, 642, 666
Nymphæa..... 45
Nymphæaceæ..... 45
Nyroca nyroca..... 137

O.

Oakford, Ellen 722
Ober, F., bird collected by 80
Oceanodroma cryptoleucura **78**
furcata 125
leucorhoa..... 125
Ocniscus 298
Octoglena..... 328
Oertel, K., engraving by 707
Œstrelata..... 378
cooki..... 77
hæsitata 77
lessoni..... 381
sandwichensis..... 77
Ohio, fossils from..... 25
Oidemia americana 138
deglandi..... 138
fusca.....163, 195, 234
perspicillata..... .....163, 195, 234
stejnegeri..... 134
Oligocephalus grahami..... 248
leonensis..... 248
pulchellus..... 248
Olive-sided Flycatcher..... 209
Olokele, Hawaiian bird. 97
Olor buccinator.....196, 234
columbianus 136, 196, 234
cygnus..... 136
Oo, Hawaiian bird 100
Oonidus for Les Ovoides..... 481
Opisthemega crassipes..... 326
Ophichthys guttifer 116
ocellatus..... 116
retropinnis, new species..... **116**
Ophibolus getulus..... 239
Ophidia in Bahamas 439
of California..... 239
Orbidus 481
for Les Sphæroides..... 480
Orcynus..... 481
for Scombroides..... 480
Oregon, fossils from..... 39
Jay..... 211
Junco 219
Mole 182
Ruffed Grouse..... 200
Salamander 240
Oriole, Bullock's..... 214
Oreortyx pictus plumiferus 161, 199, 235
Oreomyza bairdi, new genus and species..**98**, 100
Ornithion inerme. 521
napæum, new species..... **520**
pusillum 520
Oroscoptes montanus.....638, 640, 642, 689
Orthodes irrorata, new species..... **478**
Ortyx elegans 148
Osborne, H. Frances..... 722
Henry L. 328
J. W..... .....704, 725

Page.

Osmotreron 417
Osprey, American 203
Ostade, A. van, etching by 709
Ostrya! Walkeri! 38
Otaheite Curlew 83
Otis tarda, trematode in 369
Otocoris alpestris girandi 637, 642, 668
rubea 210, 236
strigata 163, 210, 237
Otter, North American 185
Otus brachyotus 85
sandvicensis 85
Ou, Hawaiian bird 90
Ousima, Japan, corals from 18, 19
Oustalet, Mr 273
Ouzels, water 225
Ovis canadensis 169
montana 169
Owen, Dr. Richard D 617
Sir Richard 381
Owl, American Barn 203
Long-eared 203
Burrowing 204
Dusky Horned 204
Flammulated Screech 204
Great Gray 203
Kennicott's Screech 203
Pygmy 204
Screech 302
Short-eared 85, 203
Western Horned 204
Owls on Kauai Island 75
Oxford, England, fossils from 32, 33, 34

P.

Pachyrhamphus cinnamomeus 589
Pacific Golden Plover 80
Loon 191
Pine Snake 239
Pocket Gopher 177
Pagellus 65
Pagrus 65
Palæocyparis elegans 34
Palæophycus irregularis 21
rugosus 22
tubularis 21
Pallas, quoted 126
Palmeæ 38
Palmer, E 13, 17, 363
Palmyra Island, corals from 12
Paludicolæ 650
Palumbœna 422
Panama, new fish from **388**
Pandion "carolinensis" 235
haliaëtus 141
carolinensis 203
Pannemaker, engraving by 707
Panotus for Tænianotus 480
Panther or Puma 189
Parabuteo unicinctus harrisi 659
harrissii 637
Paradesmus dasya, new species **619**
gracilis 619
Parasites of deer 166

Page.

Parasitic copepods **559**
Jaeger 191
Parajulus ectenes, new species **617**
pennsylvanicus 617
zonatus, new species **618**
Paridæ 227, 692
Parker, Dr., on Tinamous 157
Parkinsonia aculeata 634
Parkinson, Lieut. D. F 159, 196
on California birds 241
Parmegiano, etching by 709
Parrish, Stephen 723
Parrot, Passerine 541
Partridge, California 199
New Plumed **148**
Plumed 199
Valley 200
Parus ater! 415
atricapillus occidentalis 228
atricristatus 638, 640, 692
castaneifrons 640, 693
bicolor 638, 692
texensis 640, 692
carolinensis agilis 638, 693
castaneoventris 415
commixtus 410
measurements of **411**
cinereus 410
gambeli 161, 162, 228, 237
inornatus 228, 237
kamtschatkensis 145
minor 410, 486
commixtus **410, 415**
measurements of **411**
nipalensis 410
measurements of **412**
occidentalis 237
rufescens 161, 229, 237
varius 486
Passer montanus 487
saturatus 414, 415
Passerella iliaca 638, 679
megarhynca 22
schistacea 220
unalaschcensis 219
megarhyncha 161, 236
"schistacea" 161, 163, 236
"unalaschensis" 236
Passeres in Texas 666
Passerina amœna 221, 236
ciris 638, 642, 681
cyanea 642, 680
Passeroideæ 142
Pavoncella pugnax 133
Peale, Titian 303
Pecopteridæ 25
Pecopteris abbreviata 25
arborescens 25
dentata 25
Fontainii 25
Powellii, new species **26**
serrulata 25
species, fruit of 26
unita 26
villosa 26

Page.

Pecopteris villosa var. microphylla 26
Pelecetes columbianus 163, 235
phasianellus columbianus 200
Pelan 187
Pelecanidæ 192, 645
Pelecanoides, species 376
urinatrix 380
Pelecanus californicus 163, 193, 234
erythrorhynchos 163, 192, 234, 641, 645
fuscus 641, 645
Pelgadis guarauna 163
Pelican, American White 192
California Brown 193
Pelidna alpina pacifica 130
Pelzeln, Dr. A. v 82, 94, 96
Pennant, on Kamtschatkan birds 134
Pennant's Marten 187
Pennell, Joseph 723
Pennsylvania, fossils from 22, 23, 24
Perca rhomboidalis 67
unimaculata 69, 74
Percis for Aspidophoroides 480
Pericrocotus tegimæ 410, 415
Perigrapha, genus **477**
inferior, new species **477**
Peristera 425
cinerea 584
Periocreus obscurus 161, 162, 211, 236
Perissopus communis, new species **560**
stimpsoni, new variety **561**
dentatus 560
Peregnathus monticola 177
Peru, starfishes from 447
Petaserpes 328
Petrel, White-breasted 77
Petrochelidon lunifrons 221, 579, 638, 682
Peucæa cassini 638, 678
ruficeps eremœca 678
Pewee, Black 209
Western Wood 209
Phacellodomus frontalis 152
inornatus, new species **152**
Phæornis myadestina, measurement of type **93**
new species **90**
obscura 90, 91, 92
Phæthornis adolphi 591
Phainopepla nitens 222, 236
Phalacrocorax mexicanus 641, 645
Phalacrocoracidæ 192, 645
Phalacrocoracoideæ 138
Phalacrocorax dilophus 234
albociliatus 191, 192
pelgicus 138
perspicillatus 138
urile 138
Phalacrotreron 417
Phalænoptilus nuttalli 163, 206, 235
nitidus 637, 666
Phalarope, Northern 198
Red 197
Wilson's 198
Phalaropodidæ 197, 651
Phalaropus lobatus 134, 163, 198, 234, 394, 415

Page.

Phalaropus tricolor 163, 198, 234, 637, 651
Phaleris cerorhynca 118
Phasianidæ 657
Phasianus gallus, trematode in 369
Phenacobius mirabilis 243, 249, 250, 252
Philacte canagica **135**, 163, 196, 234
measurements of **135**
Phlogopsis bowmani 524
nigromaculata 524
Phlogothraupis sanguinolenta 585
Phœbe, Black 209
Say's 209
Phœnicothraupis salvini 585
Phoredendron flavescens 549
Photo-Electrotype Company 726
Photo-Engraving Company 726
Ives process 727
processes 723
Photo-Galvanographic Company 730
Photoglyphographic process 729
Photogravures 728
Photolithography 727
Phototype process 728
Phoyx, subgenus 310
Phragmites Alaskana 35
cretaceus 35
Phrynosoma douglassi pygmæa 238
Phrygilus aldunatei 431
aldunati 431
atriceps **435**
formosus 431, **432**, 435
gayi 434, 435
notes on **431**
punensis 435
new species **434**
Phyllites fraxineus, new species **46**
mimusopsoideus **46**
Phyllopseustes borealis 145
coronata 486
xanthodryas 469
Piaya cayana 582, 591
Pica "hudsonica" 236
nuttalli 163, 211, 236
pica hudsonica 210
Picicorvus columbianus 161, 162, 212, 236
Picidæ 205, 663
Pickering, Captain 17
Picoideæ 142
Picoides arcticus 161, 163, 205, 235
Picolaptes compressus 500
delatrii 491
rikeri, type of **151**
Pigeon, Band-tailed 200, 551
Hawk 203
Japanese **416**
Pika, North American 180
Pileated Woodpecker 206
Piloty, Carl, etching by 710
Pimephales notatus **246**, 248, 249, 251
promelas confertus 247, 249, 251, 253
vigilax 249
Pinaroloxias 98
Pine Siskin 217
Pin-fish 66
Pintail 194

Page.

Pin-tail Ducks 85
Pinus, scale of fossil 34
Pionias senilis 592
Pipilo chlorurus 161, 220, 236, 638, 679
"crissalis" 236
fuscus crissalis 220
maculatus megalonyx ..220, 638, 640, 642, 679
oregonus 220
"megalonyx" 235
oregonus 163, 236
Pipit, American 225
Pipra mentalis 589
Piranga erythromelas 638, 681
figlina 585
ludoviciana 221, 236
rubra 638, 642, 681
Pisan, H., engraving by 707
Pitangus derbianus 580, 581
Pitteri, G. M., engraving by 708
Pitylus poliogaster scapularis, new subspecies **586**
Pityophis catenifer 239
sayi bellona 239
Platalea 275
japonica 275
leucorodia 275
measurements of **281**
major **275**, 281, 283
measurements of **279, 280**
minor 276, 281, 283
measurements of **284**
regia 276, 277, 283
measurements of **285**
swinhoei 284
Plataleidæ 648
Plataleinæ 272, 275
Platanaceæ 40
Platanus Guillelmæ 40
Platea 275
Platopterus for Raia 481
Platt, C. A 723
Platyonichus ocellatus 629
Plecopodus for Gobioides 480
Plectrophenax nivalis 142
Plegadis falcinellus 84
guarauna 84, 196, 234, 641, 648
Plesiopidæ 616
Plesiopinæ 615
Plesiopini 616
Plesiops 616
Plesko, Dr. Th 420
Pleske, Th., quoted 121
Plethodon ïëcanus 240
Plover, Black-bellied 199
Pacific Golden 80
Plumed Partridge 199
Poacites Mengeanus 35
Pocket Mouse 177
Rat 177
Podiceps subcristatus, trematode in 369
Podicipidæ 190, 643
Podylymbus podiceps 190, 234, 636, 643
Podoleptus for Leptopus 481
Pœcilichthys lepidus 48
Poey, Professor 615

Page.

Pogonoperca 615
Polioptila bilineata 585
californica 589
cærulea 230, 237, 549, 638, 642, 694
plumbea 549, 638, 694
Polipturus substitute for Scomberomorus 486
Polyborus cheriway 637, 642, 661
Polydesmus bimaculatus, new species 323
branneri, new species 620
canadensis 324, 620
castaneus, new species 320
erythropygus 322, 329
inconstans 619
moniliaris 619
pennsylvanicus 620
serratus 619
testi, new species 619
varius, new species 323
Polynemus approximans 222
californiensis, note 222
Polyzonidæ 329
Pomatomus saltator 571
Pontius, Paul, engraving by 707
Poocætes "confinis" 226
gramineus 603
confinis ..217, 638, 640, 642, 673
Poor-will in California 286
Populus artica 39
denticulata 40
monilifera 625
Porcupine, Western 178
Porcupine's love for salt 179
Porites astræoides 354
Branneri, new species 355
catalogue of 354
clavaria 354, 356
compressa 361
conglomerata 364
contigua 366
cribripora 361
cylindrica 361
Danæ 360
erosa 364
favosa 361
flexuosa 361
fragosa 361
furcata 354, 361, 365
levis 354
lichen 364
limosa 364
lobata 364
lutea 364
mordax 364
var. elongata 364
mucronata 365
nigrescens 365
var. mucronata 354, 365
palmata 365
panamensis 365
Plumieri 365
porosa 365
recta 361
reticulosa 365
solida 354, 365
(Synarœa) informis 354

Page.

Porites tenuis 354, 365
Porzana 396
albigularis 111
alpari 111
carolina 163, 197, 234, 578, 637, 650
cinereiceps 111
erythrothorax 394
exilis vagans, new subspecies 595
fusca 395
intermedia 395
leucogastra 111
new species 111
noveboracensis 163, 197, 234, 637, 651
phæopyga 415
new species 394
Potter, Paul, etching by 709
Pourtalès 13
on alces 11
Powell, George, fossil from 23, 24
Maj. J. W., collected fossils 38, 41
Miss C. A 721
Pozo Azul, Costa Rica 1
Prairie Falcon 202
Hare 181
Prang & Co., collections from 704
Prestel, Maria Catharina 711
Pretsch, Paul 725
Pribyloff Islands 140
Prinodon for Cyprinodon 480
Prionirhynchus carinatus 591
Prionopidæ 92
Procellaria alba 77
desolata 125
Procellaroideæ 125
Procyonidæ 184
Procyon lotor 184
Progne subis 221, 236, 638, 640, 642
Prong-horn Antelope 169
Prosopis juliflora 634
Proteaceæ 40
Protonotaria citrea 579
Prout, Samuel 713
Prunus Americana 635
Pryer, H 110, 391, 399, 416
Psaltriparus lloydi 697
minimus 229, 237
plumbeus 557, 697
santaritæ, new species 697
Pseudochromidæ 616
Pseudochromides 616
Pseudochromidoidei 615, 616
Pseudochromids 616
Pseudochromis 616
Pseudocolaptes 151
semicinnamomeus 151
Pseudogryphus californianus 201, 235
Pseudolithobius 266
Pseudopecopteris anceps 26
dimorpha 26
muricata 27, 29, 30
Pluckenetii 27
Pseudopriacanthus altus 269
Pseudoplesiopini 616
Pseudoplesiops 616
Pseudototanus guttifer 132

Page.

Psilorhinus Mexicanus 583, 588
Psittaci 535
Psittacirostra icterocephala 389
Psittacula andicola 529
cœlestis 529, 532, 533, 537
lucida 532
conspicillata 529, 531, 532, 536
crassirostris 529, 532, 533, 534
cyanoptera 534, 542, 543
cyanopyga 540, 541
cyanopygia 529, 531, 532, 533, 540
delicicosa 533, 534
new species 545
exquisita, new species .. 529, 533, 542, 548
gregaria 543, 547, 548
guianensis ... 533, 534, 542, 543, 546, 548
insularis, new species 534, 541
modesta 547
passerina ... 529, 530, 531, 532, 533, 538, 543, 548
cyanopyga 540
vivida 533, 547
new subspecies. 539
review of genus 529
sclateri 529, 532, 535, 548
tuipara 547
viridissima 543, 544
xanthopterygius 547
Psittaculus cœlestis 537
conspicillatus 536
cyanopygius 540
gregarius 539, 547
passerinus 538, 539
sancti thomæ 543
sclateri 535
Psittacus brasiliensis 538
capensis 546
cynanopterus 542, 543, 546
gregarius 545
leucophthalmus 546
passerinus 538, 543, 548
simplex 546
st. thomæ 546
tirica 547
Psittirostra 99, 100
psittacea 389
Pterocarya Americana 40
Pterochelidon lunifrons 236
Pteroglossus torquatus 591
Pterops for Bostrychoides 481
Pterospermites dentatus 45
Pueo, Hawaiian bird 85
Puffinus meridionalis 77
tenuirostris 125
Puffin, Tufted 124
Puget Sound, new Bat from 6
Puma or Panther 189
Purple Martin 221
Putnam, S. G 721
Putorius brasiliensis frenatus 187
vison 187
Pygmy Owl 204
Pygopodes 643
Pyrocephalus rubineus mexicanus 580, 637, 642, 668

Page.

Pyrrhula cassini 103, **104**, 105
cineracea 103, 107
coccinea a rubicilla 106
var. cassini 104
pallida 110
europea 105, 106
germanica 106
griseiventris 106, **107**
kamtschatica 103, 106
kamtschatkensis 106
kurilensis 110
linnei 105
major 104, 105
minor 106
orientalis 107, 110
kurilensis 110
rocacea 107
peregrina 106
pileata 104
pyrrhula 104, 105
kamtschatica, measurements of **106**
europea 105
pyrrhuloides 107
rosacea 107, 108, 109
rubicilla 104, 105, 106
kamtschatkensis 106
rufa 106
vulgaris 105, 106, 107
kamtschatica 106
major 105
minor 106
var. orientalis 107
Pyrrhulæ 103
Pyrrhuloxia sinuata 640, 642, 680

Q.

Quackenbos, Dr. John D 628
Quail, California 199
Mountain 199
Quartley, F. W 720
Quelch, John J 11, 14
Quercineæ 38
Quercus chrysolepis 38
Crossii, new species **39**
Drymeja 39
Gaudini 39
ilex 39
imbricaria 39
Mediterranea 39
nerrifolia 39
Platania 39
stellata 635
suber 39
virens 635
Querquedula querquedula 136
Quiscalus caymenensis 574
macrourus 640, 742, 672
quiscula æneus 638, 640, 672

R.

Rabbit, Jackass 181
Raccoon 184
Radcliff, Robert 164
Radthe, Lanckner & Co 704

Page.

Rafinesque, "Analyse de la Nature" **480**
Raia 481
Rail, Virginia 197
Yellow 197
Rajon, Paul, etching by 710
Ralleæ, synopsis of **396**
Rallidæ 197, 650
Rallina 396
Rallus **396**
ceylonicus 391
fasciatus 396
pectoralis 396
virginianus 197, 234, 637
Ramage, James 727
Ramphastos tocard 591
Ramphistoma for Belone 480
Ramphocelus passerinii 585
Ramsay, R. G. W 294
Rana pachyderma 241
Ranunculaceæ 46
Raptores 658
Rathbun, Richard, on Heliaster **440**
Madrepora corals ... **10**
new Copepods **559**
Porites and Synaræa. **354**
Rat, Kangaro 177
Pouched 177
Wood 176
Rattlesnake, California 239
Raven, American 212
White-necked 555
Rawley Springs, Va 23
Rawson, H. A 164
Recurvirostra americana 163, 198, 234, 642, 651
Recurvirostridæ 198, 651
Red-backed Sandpiper 198
Red-bellied Hawk 202
Red-breasted Merganser 193
Sapsucker 205
Redhead Duck 194
Red-naped Sapsucker 205
Red Phalarope 197
Red-shafted Flicker 206
Red Snapper, notes on **513**
Red-throated Loon 191
Red-winged Blackbird 213
Reef Herons 300
Heron, White 202
Regulus calendula 162, 230, 237, 638, 640, 642, 694
"olivaceus" 162, 237
satrapa 638, 693
olivaceus 230
Reichenow, Dr. Ant 529
Relief engraving 705
Rembrandt, etching by 709
Reni, Guido, etching by 709
Reniceps tiburo 563
Reptiles of northern California 159, 237
Republican River, fishes of 242
Review of Japanese birds **416**
Rhabdocarpus multistriatus 33
Rhamneæ 44
Rhamnus Carolinianus 634
Cleburni 44
Dechenii 44

	Page.
Rhamnus Goldianus	44
intermedius	44
Rhamphocænus rufiventris	581
Rhegmatorhina gymnops, new species	**525**
Rhode Island, fossils from	26
Rhomboplites aurorubens	270
Rhothœca	47
Rhus bella	44
Toxicodendron	635
Rhynchocyclus cinereiceps	580
Rhynchophanes mccownii	638, 672
Rhynchops nigra	644
Rhynchotus rufescens	158
Ribera, Giuseppe, etching by	709
Richardson, W. B., on West Indies birds	572
Richardson's Merlin	203
Richmond, Va., fossil from	26
Ridgway, Robert	75, 84, 87, 88, 197, 228
description of Psaltriparus santaritæ	**697**
"Nomenclature of Colors," by	76
on Ardea wuerdemanni	**112**
birds from Lower Amazon	**516**
birds of Caribbean Sea, etc	**572**
Carpodectes antoniæ	**20**
Catharus berlepschi	**504**
generic name Uropsila	**511**
genus Dendrœincla	**488**
genus Psittacula	**520**
new Cotinga	**1**
new genus Berlepschia	151
new Megascops	**267**
new Middle America birds	505
new Muscisaxicola	**430**
new Partridge	**148**
new Phacellodomus	152
new Porzana	**111**
new Spindalis	**3**
Phrygilus gayi	**431**
Trogon ambiguus	**147**
"Water Birds of North America," by	77
Riker, C. B., birds collected by	516
Riley, Prof. C. V	341, 353, 450
Ring-billed Gull	192
Ringer, Frederick, collected birds	301
Ringgold, Capt. C	10
Ring-necked Duck	195
Snake	239
Rissa brevirostris	123
tridactyla pollicaris	123
Road-runner	160, 204
Roberts, W. L., engraving by	706
Robin, Western	231
Rock Wren	226
Rocky Mountain Chipmunk	171
Marmot	170
Woodchuck	160
Rodgers, Capt. John	10
Rodgers North Pacific Exploring Expedition	305
Roessler, A. R., collected fossils	22
Romeris	407
Rosaceæ	43
Rosenberg, H	723
Ross, B. R., collected fossils	34
Ruatan, Honduras, birds of	578
Ruddy Horned Lark	210
Kingfisher	403
Ruff, on the Pacific coast	133
Rufous Humming-bird	208
Rupicola	422
Rupornis ruficauda	583, 593
Russ, Carl	530
Russell, I. C., fossils from	22, 24, 31
Russell & Richardson	720
Russia, fossils from	32
Ruysdæl, J., etching by	709
Ryland, Wynne, engraving by	712
Rynchopidæ	644
Ryolite bed, Colorado, fossils from	39

S.

	Page.
Sabalites	38
Sable or Marten	188
Saccomyidæ	177
Sacramento Valley	163
Sage Grouse	200
Hen	160
Sparrow	219
Sagittaria, new species	**37**
Sailor's choice	66
Saint Clair, Pa	23
Saint Thomas, corals from	17
Salamander, Mount Shasta	240
Oregon	240
Salema	69
Salicaria (Cisticola) brunniceps	407
Salicineæ	39
Saline River, Kansas, fishes of	250
Salix nigra	635
protœæfolia	39
Salpinctes obsoletus	162, 226, 237, 690
Saltator atriceps	586
grandis	586
magnoides	580, 586
Salvelinus aureolus, new species	**628, 630**
oquassa	628
Salvinia Cañon, Utah	38
Samuel's Song Sparrow	219
San Antonio, Tex., birds of	633
Sanderling	82
Sandhill Crane	197
Sandpiper, Dusky	133
Least	195
Red-backed	198
Solitary	198
Western	198
Sandwich, Flycatcher	89
Islands, birds at	86
Sapindaceæ	44
Sapindus angustifolius	44
marginatus	635
Sapsucker, Red-breasted	205

Page.

Sapsucker, Red-naped 205
Sarcidium scopiferum 243
Sargo Raiado 68
Sargus argenteus 73, 74
aries 69, 74
capensis 67
caribæus 70, 74
caudimacula 73, 74
flavolineatus 70, 74
holbrooki 72, 74
humerimaculatus 70, 74
ovicephalus 69
ovis 69, 74
pourtalesii 70
raucus 73, 74
rhomboides 66
rondeleti 73, 74
salin 74
tridens 71, 74
unimaculatus 69
variegatus 73, 74
Sartain, John, mezzotint by 710, 711
Saunders, Howard, birds from 119
Mr., quoted 348
Sayles, Ira, collected fossils 22, 23, 27, 30, 33
Sayornis nigricans 209, 236
Phœbe 637, 640, 642, 667
saya 209, 637, 640, 642, 667
sayi 236
Sayris for Scombresox 480
Say's Chipmunk 179
Phœbe 209
Saxton, Joseph, engraving by 715
Scapanus Townsendii 182
Sceloporus undulatus 238
thayeri 238
consobrinus gratiosus 238
Schendyla ? perforatus, new species 325
Schimper's Atlas Pal. Veget 37
Schlegel, quoted 319
Schlüter, Mr., bird from 129
Schmidt, G. F 708, 710
Schoff, S. A 723
Schongauer, Martin, intaglio engraving by 707
Schrieve, Howard, collected fossils 38
Schwarzburger, C 720
Scirpus lacustris 36
validus 36
Sciuridæ 170
Sciuropterus volucella hudsonius 174
Sciurus douglassi 161
fossor 174
"fremonti" 161, 163
hudsonicus Douglassi 174
Fremonti 173
Sclater, Dr 88
Sclater's Spotted-winged Flycatcher 86
Scolecophagus cyanocephalus 215, 236, 640, 642, 671
Scolcophagus cyanocephalus 638
Scoliodon terræ-novæ 563
Scolopacidæ 198
Scolopacoideæ 125
Scolopax arquata 133
(Gallinago) solitaria 129
gallinago, trematode in 360

Page.

Scolopax guarauna 84
hyemalis 129
incana 83
limosa 131
rusticola, trematode in 360
solitaria 129
solitaris 83
tahitiensis 83
Scolopendra viridis 326
woodii 326
Scolopocryptops nigridius, new species 333
sexpinosa 326
Scomberomorus 469
Scombresox 469
Scombridæ 462
Scombroides 469
Scops brasilianus 267
guatemalæ 267
nudipes 267
Scorpæna brasiliensis 270
Scotaeus 326
guttatus 326
Scoter, Surf 195
Velvet 195
Scotogramma, new genus 469
inconcinna, new species 469
perplexa, new species 469
umbrosa, new species 470
Scotophilus hesperus 515
Scott, W. E. D 147, 554
Screech Owl 262
Flammelated 264
Kennicott's 262
Scutigera forceps 264, 326
guildingii 326
mexicana 326
occidentalis 326
Scutigeridæ, notes on 251
Seebohm, Mr 92, 108, 110, 120, 128, 134, 274, 276
Seiurus aurocapillus 576
motacilla 667
noveboracensis 576, 638, 667
Selasia forceps 264
Semotilus atromaculatus 243, 247, 249, 250, 252
corporalis 243
Sennett, George B., on Texas birds 696
Sequoia Langsdorffii 34
Reichenbachi 34
Serotine Bat 542
Serranus brasiliensis 269
Serrasalmo 466
Setophaga ruticilla 576, 638, 642, 668
Severzow, Dr 139, 140
Sewellels in California 174
Shandy, Christopher C 566
Sharp, William, engraving by 706
Sharpe, R. B 85, 92, 98, 144, 466
Sharp-shinned Hawk 201
Sharp-tailed Grouse 109
Sheep, Mountain 109
Sheepshead 68
Shirlaw, Walter 723
Short-billed Gull 192
Short-eared Owl 85, 203
Shoveller 194

Page.

Skowl? 175
Skrieve, Howard 44
Skrike, Loggerhead 222
White-rumped 222, 553
Skufeldt, Dr. R. W., on birds' sterna, etc.. **376**
Sialia arctica 161, 162, 232, 237, 638, 696
mexicana 232, 237, 696
sialis 638, 695
guatemalæ 584
Sickle-bill, Green 93
Siewers, Mr 343
Sigillaria Defrancii 30
elliptica, var—— 30
ichthyolepis 30
monostygma 30
reniformis 30
stellata 30
Voltzii 30
Sigillariæ 30
Silvery-haired Bat 182
Silver Fox 188
Silvestre, Israel, etching by 709
Simonean & Toovey 727
Simorhynchus cristatellus 118
monocerata 118
pusillus 118
pygmæus 118
Singapore, corals from 12, 15, 18
Siphostoma louisianæ 269
Sirani, Elisabetta, etching by 709
Siskiyon County, California 159, 161
Sisson, J. H 164, 175
Sitka, Alaska, fossils from 35, 36, 37
Sitta "aculeata" 237
canadensis 161, 162, 228, 237, 638, 692
carolinensis 638, 692
aculeata 227
pygmæa 228, 237
Skink, Skiltons 238
Skunk, Common 185
Little Striped 185
Slayton, C. H., trematode from 367
Smillie, James D 722
Smith, Miss Rosa 328
John B., on Callimorpha **338**
Euerythra **335**
new Noctuidæ **450**
Smithwick & French 720
Smoky Hill River, Kansas 251
Snake, Black 239
Boyd's Garter 240
California Garter 240
Hallowell's Coach-whip 240
Pacific Pine 239
Purple-tailed 239
Ring-necked 239
Rocky Mountain Garter 240
Striped 240
Wandering Garter 240
Western Bull 239
Worm 240
Yellow-bellied Black 240
Snipe, Wilson's 198
Snowbird 204
Society Islands, corals from 14, 15

Page.

Solitaire, Townsend's 230
Solitary Sandpiper 198
Solomon River, fishes in 242, 247
Somateria spectabilis 138
v. nigra 137
Sonora, Partridge from 148
Soolo Sea, corals from 12, 13, 18, 19
Sooty Grouse 200
Sophora affinis 634
secundiflora 634
Sora in California 197
South Sea Islands, corals from 13
Sparidæ 615
Sparinæ, analysis of **65**
Sparrow, Brewer's 218
Gambrel's 218
Golden-crowned 218
Hawk 203
Heerman's Song 219
Intermediate 218
Lincoln 219
Rusty Song 219
Sage 219
Slate-colored 220
Samuel's Song 219
Thick-billed 220
Townsend's 219
Western Chipping 218
Savannah 217
Tree 218
Vesper 217
White-crowned 218
Sparus **65**
annularis 71
aurata 65
erythrinus 65
ovicephalus 68, 74
pagrus 65, 67, 68, 74
rhomboides 66, 74
salin 70
sargus 73, 74
sheepshead 68
Spatherodia 275
Spatula clypeata 137, 194, 234, 641, 646
Spenurus semitorquatus 416
Speotyto cunicularia hypogæa. 204, 235, 637, 642, 662
Spermophila griseoventris 107
Spermophile, Californian Lined-tailed 172
Douglass's Lined-tailed 171
Lined-tailed 173
Townsend's 173
Spermophilus grammurus Beecheyi 172
Douglass's 171
Richardsoni Townsendi 163, 173
Sphærodactylus notatus 436
Sphenocercus 417
formosæ 417
sororius 417
Sphenophyllum erosum 23
Sphenopteridæ 23
Sphenopteris flaccida 23
pseudo-murrayana 23
Sphyrapicus ruber 161, 205, 235
thyroideus 161, 162, 206, 235
varius 637, 664

Page.

Sphyrapicus varius nuchalis....161, 205, 235
Spiegle, C.... 720
Spiiura solitaria.... 129
Spindalis zena.... 3
townsendi, new subspecies. **3**
Spinus pinus....217, 236
psaltria....217, 236
spinus.... 415
tristis....217, 236, 638, 672
Spirobolus uncigerus.... 325
Spiza americana....576, 638, 681
Spizella "arizonæ".... 162, 236
breweri....218, 236, 676
monticola ochracea.... 218
"ochracea".... 236
pallida....638, 642, 676
pinetorum.... 587
pusilla.... 638, 640, 642, 677
arenacea.... 677
ocialis....638, 676
arizonæ....218, 676
Spoonbill, Formosan.... 281
Spoonbills of Japan.... 275
Sporophila corvina.... 586
moreleti.... 580
Spotted Sandpiper.... 199
Tinamou, osteology of.... **157**
Spotted-winged Flycatcher.... 89
Sprague & Co.... 728
Squalius elongatus.... 249
Squirrel, California Gray.... 174
Northern Flying.... 174
Staudenbaur, Robert.... 721
Stearns, Silas, collected fish....116 501
Steganopodes.... 645
Stejneger, Leonhard, collected Entomostraca.... 154
new grass collected by.... 153
on birds of Commander Islands **117**
birds of Hawaii. **75**
birds of Idzu.... **482**
birds of Liu Kiu Islands.... **391**
Carrion Crow.. **320**
Japanese birds. **606**
Japanese Ibises, etc.... **271**
Japanese pigeons.... **416**
new Himantopus **81**
new Turdus.... **4**
Palæarctic Bullfinches.... **103**
Psittirostra.... **389**
Stelgidopteryx serripennis....222, 236, 638, 682
Steller's Jay.... 211
Stenostoma melanoterma.... 439
Stenotomus, analysis of.... **65**
chrysops.... 65
Stephens, F., collected birds' nests.... 549
Stercorariidæ.... 191
Stercorarius longicaudus.... 125
parasiticus....**124**, 163, 191, 234, 302

Page.

Stercorarius pomarinus.... 125
Sterculiaceæ.... 45
Sterna anglica.... 398
bergii....**392**, 414
pelecanoides.... 392
poliocerca.... 392
camtschatica.... **123**
cristata.... 394
dougalli.... 414
forsteri....192, 234, 641, 644
fuliginosa....392, 414, 641, 644
hirundo....638, 644
maxima....641, 644
melanauchen.... 414
paradisæa.... 124
sandvicensis acuflavida....641, 644
sinensis.... 414
tschegrava....641, 644
velox.... 394
Stigmaria ficoides.... 30
var. elliptica.... 31
minor.... 31
undulata.... 31
Stilt, Black-necked.... 398
Knudsen's.... 81
Stimpson, Dr. William....10, 16, 18, 500
Stints, Long-toed.... 120
Stipple engraving.... 722
Stone, Livingston....208, 224
Stork, Black.... 285
Japan.... 288
Strange, Robert, engraving by.... 700
Strauch, Dr.... 459
Streaked Horned Lark.... 219
Strecker, Mr.... 343
Streets, Dr. T. H., collected birds.... 88, 376
Strepomatidæ.... 466
Streptopelelia....425, 426
torquata.... 426
Strigamia.... 394
Strigidæ....203, 661
Strigoideæ.... 141
Striped Snake.... 360
Strix acclpitrina.... 86
brachyotus.... 85, 360
pratincola....203, 235, 637, 661
sandwichensis.... 85
Strixner, N.... 723
Strutt, J. G., etching by.... 700
Struthers & Co., Jos.... 727
Stuart, R. C., birds from.... 122
Studer, on Madrepora.... 11
Sturnella magna....642, 670
inexspectata, new subspecies.... **587**
mexicana.... 587
neglecta....214, 236, 643
neglecta....162, 637, 640
Sturnia pyrrhogenys....413, 415
Stylography.... 716
Sula bassana.... 302
leucogastra.... 570
piscator.... 570
species.... 376
osteology of.... **389**

Page.

Sula sula 415
Sunapee Lake, fish from 628
Sundevall, Professor 278
Surf Scoter 195
Swain, Prof. Joseph 47, **50**
Swainson's Hawk 202, 553
Swallow, Bank 222
Barn 221
Cliff 221
Rough-winged 222
Tree 222
Violet-green 222
Swan Island, birds from 575
Trumpeter 196
Whistling 196
Sweden, Lynxes from 9
Swift, Vaux's 207
Swinhoe, quoted 318
Sylvania canadensis 638, 688
mitrata 579, 638, 688
pileolata 162, 223, 237
pusilla 638, 688
pileolata 224
Sylvester, H. E 720
Sylvia cisticola 407
Sylvicola 422
Sylviidæ 230, 693
Symphemia semipalmata 163, 199, 235
inornata 637, 642, 653
Synallaxis pudica 590
Synaræa, catalogue of **354**
Danæ 366
erosa 366
monticulosa 366
Synthliboramphus antiquus 118
wumizusume 482
Syrnium 637
nebulosum 642, 662

T.

Taber & Co., Charles 728
Tachycineta bicolor 222, 236, 642, 682
thalassina 161, 222, 236
Tachyphonus nitidissimus 586
Taczanowski, Mr 104, 117, 130, 277
Tænianotus 480
Tæniocampa 462
alia **476**
columbia, new species **472**
incincta 474
modesta 471
obtusa, new species **474**
pectinata, new species **475**
subterminata, new species .. **476**
suffusa, new species **474**
terminata, new species **475**
uniformis, new species **472**
utahensis, new species **473**
Tæniophyllæ 29
Tæniophyllum, ? new species **29**
Tænioptera obscura 91
Talpidæ 182
Tamias asiaticus quadrivittatus 171
Townsendi 163, 171
lateralis 161, 170

Page.

Tanager, Louisiana 221
Tanagra abbas 580, 585
cana 580, 585
Tanagridæ 221, 681
Tasaki, C 391, 398, 401
Tantalus loculator 636, 648
Tattler, Wandering 83
Taxeæ 35
Taxidea americana 187
Taxodium distichum 34, 635
var. miocenum 34
dubium 34
Taxospermum Gruneri 33
Taylor, Professor 28
Teal, Blue-winged 194
Cinnamon 194
Green-winged 194
Lesser Whistling 397
Teel, George A 720
Tegima, Mr 416
Temminck on Paittacirostra 389
Temnodon 612
Tennessee, fishes from 51
fossils from 22, 27
Terekia cinerea 133
Tern, Arctic 123
Black 192
Forster's 192
Terrapin, California 237
Test, Frederick C 617
Tetraonidæ 199, 655
Tetraonoideæ 139
Tetrantheræ 41
Texas, birds of **633**
fossils from 22
Thalasseus cristatus 394
pelecanoides 394
Thalassidroma 78
monorhis 414
Thalassœtus pelagicus 141, 402, 415
Thalassophryne dowi, new species **388**
Thalurania columbica 590
townsendi, new species **590**
Thamnophilus doliatus 581
inornatus, new species **522**
intermedius, new species .. **581**
murinus 522
nævius 590
nigricristatus 581
Thereschiornis 274
Thiriat, engraving by 707
Thomas, W. L., engraving by 706
Thominot's Polynemus 322
Thomomys talpoides bulbivorus 177
Thompson, John, engraving by 706
Prof. Gilbert 161, 164, 169, 234
Prof. M. J., collected fishes 242
Thompson G., collected fossil 26
Thrasher, Californian 225
Crissal 554
Threskiornis 274
melanocephalus 274
Thriothorus leucotis 518
Thrissa for Clupanodon 480
Throphilus rufalbus var. poliopleura 508

Page.

Thrush, Audubon's 231
Dwarf Hermit 231
Fly-catching 90
Jouy's 5
Varied 231
Thrushes, Japanese 4
Thryophilus galbraithi 518
leucotis 518
rufalbus 508
tæniopterа, new species **518**
Thryothorus amazonicus 517
bewickii murinus ...638, 640, 642, 691
spilurus 227
griseipectus 517
herberti **516**
ludovicianus 638, 691
maculipectus umbrinus 579, 585
oyapocensis, new species **516**
rufalbus 508
castanonotus, new subspecies **508**
"spilurus" 237
venezuelensis 508
Thürwanger, Peter 715
Thyrsitops lepidopoides 513
violaceus, new species **513**
Thynnus 481
Ticknor & Co 719
Tigrisoma brasiliensis 596
excellens, new species **595**
salmoni 596
Tiliaceæ 44
Tinamou, Spotted 157
Tinamus robustus 157
Tischbein, jr., J. H 714
Tit, Least 229
Titmouse, Plain 228
Tityra fraseri 589
personata 20, 589
Toad, Baird's 241
Todirostrum cinereum 589
Tœnioenas 422
Tokio Educational Museum 391
Torata 75
Toria nipalensis 416
Tortugas, corals from 13
Totanus ater 133
flavipes 163, 198, 235, 578, 637, 653
glareola 133
incanus 83
melanoleucus 163, 198, 235, 637, 653
melanurus melanuroides 131
nebularius 132
glottoides 132
solitaris 83
solitarius 198, 235, 637, 653
Totanus solitarius 83
Totten, General, corals from 17
Towhee, Californian 220
Green-tailed 220
Spurred 220
Townsend, Charles H., collected birds ... 84, **572**
collected new Spindalis 3
collections by 436

Page.

Townsend, Charles H., on animals of northern California **159**
J. K 95
Townsend's Chipmunk 171
Solitaire 230
Spermophile 173
Toxodieæ 34
Trachinidæ 616
Trachinotus falcatus 269
Trachycephalus septentrionalis 436
Trebius caudatus 559
tennifurcatus, new species **559**
Trematode from hen's egg **367**
Treron 416
permagna 415, 417, 418
sieboldii 415, 417
sonorius 417
sororius 417
Treroneæ 416
Trichoclea decepta 478
edwardsii, new species **478**
Trichonotus for Mugilomorus 480
Trichopetalum bollmani, new species **330**
Trigonocarpus perantiquus 33
Tringa alpina pacifica 198
bairdii 652
canutus 163, 198, 235
crassirostris, measurements of .. **129**
maculata 578, 637, 652
minutilla 163, 198, 235
"pacifica" 163, 235
Triosteum perfoliatum 348
Triphyllopteris Lescuriana 25
Trochilidæ 207, 666
Trochilus alexandri 161, 207, 235, 637, 666
anna 208, 235
calliope 161, 209, 235
colubris 637, 642, 666
rufus 162, 208, 235
Troglodytes aëdon parkmannii .. 227, 638, 640, 642, 691
brachyurus 511
cumanensis 508
furvus intermedius 585
hiemalis 638, 691
leucogastra 511
ochraceus 511
"pacificus" 237
pallescens 145
"parkmanii" 237
rufalbus 508
solstitialis 511
Troglodytidæ 225, 689
Trogon ambiguus breeding in Arizona **147**
atricollis 591
citreolus 147
elegans 147
melanocephalus 581
messena 591
mexicanus 147
puella 147
Troilite in meteoric iron 602
Tropidonotus bisectus, new species **146**
fasciatus 146
sipedon 146

Page.

Tropidonotus woodhousei 146
True, Frederick W., on crania of Lynx.... **8**
Vespertilio longicus, new species. **6**
Vesperugo hesperus..... **515**
Trumpeter Swan..... 196
Tryngites subruficollis.....637, 653
Turdidæ 92, 230, 694
Turdus aonalaschkæ.....231, 237, 638, 694
auduboni.....231, 237, 695
pallasii.....638, 695
cardis..... **4**, 485
celænops.....482, **484**
chrysolaus **4**, 5, 405, 415, 484
eunomus..... **4**, 145
hortulorum **4**
jouyi, new species..... **4**, 5
naumanni..... **4**, 415
obscurus **4**, 145, 405
pallidus **4**, 405, 415
sibiricus 4
synopsis of genus..... **4**
viscivorus, trematode in 369
Turkey Vulture..... 201
Turner, H. W 37
J. M. W., etching by..... 709
Lucien M..... 103
Turnix blakistoni..... 415
Turnstone 199
Black 199
Turtle-dove, Eastern..... 425
Ringed..... 426
Turtur 416
bitorquatus 426
douraca 426
measurements of **427**
torquatus 425, 426
gelastis.....399, **400**, **425**, 482
humilior 428
humilis 428
meena 426
orientalis 399, 426
gelastis 426
rupicola.....399, 426
risorius 426, 428
stimpsoni, new species...**399**, 400, 415, 426
stoliczka 427
synopsis of..... **425**
torquatus, measurements of..... **427**
tranquebaricus humilis 428
vitticollis 426
Twachtman, M. S 722
Typhaceæ 37
Typhlops lumbricalis 439
Typographic etching..... 716
Etching Company..... 726
Tyrannidæ.....209, 666
Tyrannulus elatus 522
reguloides, new species **521**
Tyrannus melancholicus satrapa..... 589
tyrannus 576, 580, 637, 667
verticalis... .....209, 235, 553

U.

Page.

Uapanan, Hawaiian bird..... 90
Ulili, Hawaiian bird 83
Ulmus crassifolia 635
Ulniotiltidæ..... 223
Ulocentra..... 47
Ulolonche fasciata, new species..... .. **471**
new genus..... **471**
Ulula cinerea 203, 235
Unger, William, etching by..... 710
Ungualia cana 439
maculata 439
Unio breviculus, new species 499
clarkianus 500
connasangensis 499
gerhardtii..... 500
iris..... 498
lenticularis 499
new species of **498**
ozarkensis, new species..... **498**
rubigonosus..... 499
United States Exploring Expedition....10, 76, 354
Fish Commission..... 13
Geological Survey..... 36
University of Oxford 32, 33, 34
Upsala, Sweden..... 154
Uria grylle, trematode in..... 360
lomvia arra..... 118
troile californica 118
Urinator adamsii 117
arcticus 117
imber.....190, 234, 641, 643
lumme 118, 191, 234, 376
skulls of 377
pacificus 163, 191, 234
Urinatoridæ 190, 643
Urutininiga ridgwayi 592
Urocyon virginianus littoralis..... 188
Urodela 240
Uropsila, on generic name **511**
Ursidæ..... 182
Ursus americanus..... 182
horribilis..... 183
Urticaceæ..... 40
Utah, fossils from.....27, 33, 34, 40

V.

Vaccinium acheronticum 42
Coloradense, new species **42**
Orei..... 42
Vaillant, Wallerant, mezzotint by 710
Valley Partridge..... 200
Quail 160, 199, 200
Vanderhoof, C. A 723
engraving by..... 711
Van Dyck, A., etching by 709
Vanellus cristatus, trematode in 360
Van Elten, Kruseman 722
Van Patten, Dr 267
Vasey, Dr. George, on new grass **153**
Vaux's Swift..... 207
Velvet Scoter..... 195

Page.

Venezuela, corals from 13, 17
new bird from 152
Verrill, Prof. A. E 365
on Anthozoa 10
Vespertilio longicrus, new species **6**
lucifugus 6, 182
Vespertilionidæ 182
Vesperugo abramus 515
hesperus **515**
merriami 515
noctivagans 182
serotinus 182
Vestiaria 98
coccinea 93, 96, **97**
measurements of **98**
Vinago 416
Vireo atricapillus 684
belli 642
bellii 638, 684
"cassini" 236
caymanensis 573
flavifrons 638, 684
gilvus 222, 236, 638, 683
huttoni 161, 223, 236
stephensi 556
magister 578
noveboracensi 638, 684
olivaceus 579, 638, 642, 683
solitarius 638, 684
cassinii 223
Stephen's 556
Warbling 222
Vireonidæ 222, 683
Virginia, fossils from 23
Rail 197
Visscher, Cornelius de 707
Vitis candicans 635
Vogel, A., engraving by 706
Volatinia splendens 580
Vuille, William 159, 241
Vulpes fulvus argentatus 188
Vulture, California 201
Turkey 201

W.

Wagtails in California 225
Wakes Island, corals from 15
Walcott, C. D., collected fossils 27, 33, 34, 39, 40, 41, 44, 45
Walden, Lord 294
Walker, Charles A 723
Waldheim's Xylogr. Austalt 707
Waltner, C. A., etching by 710
Wandering Tattler 83
Wapiti 168
Ward, George M 719
Prof. Lester F 36
collected fossils 39
Warbler, Audubon's 223
Black-throated Gray 223
Calaveras 223
Fan-tail 407
Hermit 224
Lutescent 223

Page.

Warbler, Macgillivrays 224
Myrtle 223
Pileolated 224
Yellow 223
Warbling Vireo 222
Watase, S 391
Water Ouzels 225
Weasel, Bridled 187
Weasels of Northern California 185
Welcke, Robert 728
Wellington, Frank H 721
Wendell, T. M 723
Werner, W. H 687
Western Goshawk 201
Grebe 190
Gull 191
Kingbird 209
Lark Finch 218
Meadow Lark 214
Nighthawk 207
Porcupine 178
Prairie Mouse 175
Red-tail 202
Sandpiper 198
Sparrow 218
Wood Pewee 209
Yellow-throat 224
West Indies, corals from 13, 17
Nat., fossil from 26
Virginia, fossils from 23
Whimbrel 75
Whistler, J. A. McN 723
Whistling Swan 196
White-breasted Petrel 77
White, Dr. C. A., collected fossils 39, 40, 41, 42
White-crowned Sparrow 218
White-faced Glossy Ibis 84, 196
White-footed Mouse 176
Whitfield, J. E 604
White-headed Woodpecker 205
White-tailed Kite 201
Whitney, Elias J 726
wood engraving by 719
J. H. E 720
Whittleseya elegans 35
Widdringtonites Reichii 27
Widgeon 194
Wilcox, W. A., fish from 513
Wilder, Dr. Burt G 388
Wilkes Barre, Pa., fossils from 24
Wilkes, Capt. Charles 10
Wilkes Exploring Expedition 10, 76, 354
Wille, J. G., engraving by 708
Willet in California 199
Williams, G. R 600, 605
Willoughby, Charles, fish from 631
Wilson's Phalarope 198
Snipe 198
Woolfe, Henry D., collected fossils 36
Wolf, Henry 721
Woodbury, Capt. D. P 13
corals from 17
L 17
type 731
Wood Duck 194

Page.

Wood engraving 704, 718
in the United States 718
Woodpecker, Arctic Three-toed 205
Black-breasted 206
Californian 206
Gardner's 205
Harris's 205
Lewis's 206
Nuttall's 205
Pileated 206
White-headed 205
Wood, H. C., collections by 436
T. W 723
Rat 176, 177
Woodwardia latiloba 27
Woollett, William, engraving by 708
Worm Snake 240
Worthen, A. H., collected fossils 23, 27
Wren, Cañon 226
Long-billed Marsh 227
Parkman's 227
Rock 226
Vigor's 227
Western Winter 227
Wren-tit 160, 229
Pallid 229
Wunderlich & Co 704
Würdemann, G., birds collected by 112

X.

Xanthocephalus xanthochephalus 236, 637, 670
Xantus, John 440
birds from 268
Xenopicus albolarvatus 161, 205, 235
Xenops genibarbis 590
Xylomiges 462
Xyrichthys jessiæ, new species **698**
novacula 698

Y.

Yarrow, Dr. H. C 238
on Reptilia, etc 241
Yates, W. S 29
fossils from 22, 30, 43
Yellow-billed Cuckoo 204
Magpie 211
Yellow-legs 198
Greater 198
Yellow Rail 197
Yellowstone National Park 40, 46
Yellow-throat, Western 224
Yungipicus kizuki 483
nigrescens 415

Z.

Zanthopygia leucophrys 406
narcissina 406, 407, 415
species **406**
zanthopygia 406
Zapodidæ 178
Zapornia 395
Zapus hudsonius 178
Zeledon, José C 505
collected near Cotinga 1
or carpodectes antoniæ **20**
Zenaida hogotensis 528
jessiæ **527**
rubripes 528
vinaceo-rufa 527
yucatanensis 528
Zenaidura macroura 200, 637, 640, 642, 657
Zincography 727
methods of 712
Zizyphus obtusifolius 634
Zone-Tailed Hawk 551
Zonotrichia albicollis 638, 676
coronata 218, 236
gambeli 218, 236
intermedia 218, 236, 638, 676
leucophrys 218, 236, 638, 640, 642, 675
querula 638, 640, 675
Zoophytes, Prof. James D. Dana on 10
Zosterops japonica 413, 415, **486**